

3D ACOUSTICS

101 Lafayette Road/ Portsmouth, New Hampshire/ 03801

MODEL 3D610B INSTRUCTIONS

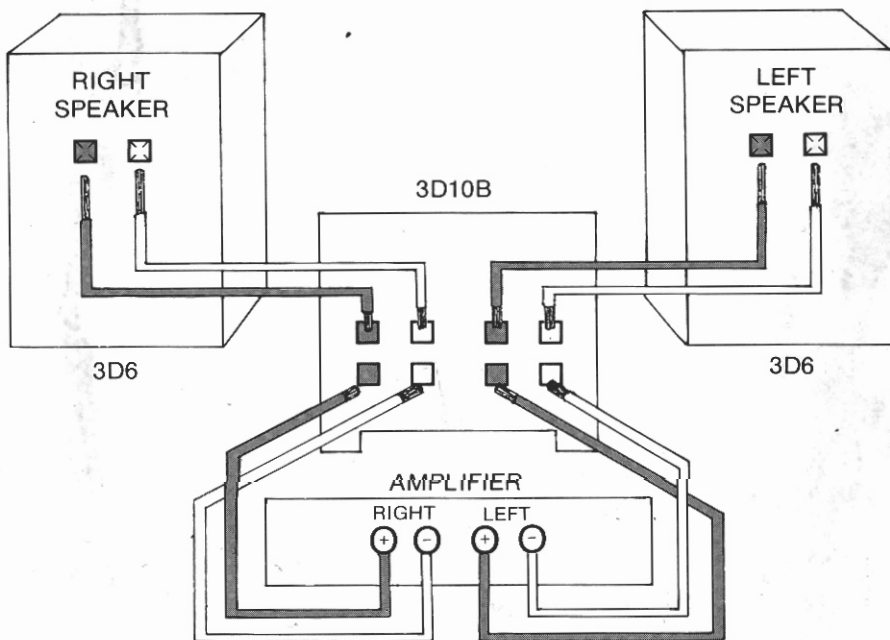
Your speakers should be operated in accordance with the following information:

Each speaker has been carefully designed, manufactured and tested, and should provide many hours of listening pleasure. Should there be any questions, please feel free to contact our customer service department:

3D Acoustics / CSD
101 Lafayette Road
Portsmouth, N.H. 03801
(603) 964-9292

HOOK UP

All 3Dspeakers are equipped with Spring Loaded Terminal Connectors. These enable you to use bare wire leads. For minimal power losses, and maximum performance, we suggest you use a heavy guage wire, (no. 14 preferred, or any "lamp" or "zip" cord). Also, be sure to observe polarity when connecting your speakers to your receiver or amplifier. Proper hook-up is illustrated below.



ROOM PLACEMENT

There are two critical factors in achieving proper performance from your speakers. Hook-up, (see above), and room placement. We suggest for optimum stereo separation, the satellites, (3D6), should be at least six feet apart from each other. Their backs should be flat against a wall, and free from any obstruction. The bass module, (3D10B), may be placed anywhere in the room, provided it is no more than ten feet from either of the satellites. It too should be placed with its back flat against a wall.

We encourage experimentation with placement to suit your particular taste and room dimensions.

POWER REQUIREMENTS

The Model 3D610B should be driven by at least 30 watts per channel, and no more than 150 watts per channel.

MODEL # 3D10B

INSPECTED BY BM

SERIAL # 014178

DATE CODE 2582T

3D Acoustics 150 Lafayette Road / Portsmouth, NH 03804

3D ACOUSTICS

3D ACOUSTICS

STANDARD 2011 TREATMENTS TO
LIMIT NOISE TO ACCEPTABLE LEVELS
AND TO PROTECT PUBLIC HEALTH
AND SAFETY. A. "Acoustic Treatment"
If these items are not present

3D ACOUSTICS
Owner's Manual

3D ACOUSTICS

THREE PIECE LOUDSPEAKER SYSTEM

OPERATING INSTRUCTIONS

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ROOM PLACEMENT

There are two critical factors in achieving proper performance from your speakers. Hook-up (see above) and room placement. We suggest for optimum stereo separation the speakers should be at least six feet apart. More pronounced bass may be achieved by placing your speakers in or near a corner. For the most natural sound, see instructions on rear of bass module.

We encourage experimentation with placement to suit your particular taste.

POWER

min. 30 watts per channel
max. 150 watts per channel

FULL FIVE-YEAR WARRANTY

3D Acoustics warrants to the owner of any 3D speaker, that it will be, and will remain to be, free of any manufacturing defects in material and workmanship for a period of five years from date of original purchase. Should servicing become necessary during this period, all parts and labor will be furnished free of charge under the provisions of this warranty.

The provisions of this warranty, and the responsibility thereto of 3D Acoustics are as follows:

1. Warranty registration card or other form of proof of purchase should be on file with 3D.
2. Warranty will be void if products have been:
 - a. neglected, abused or victim of an accident.
 - b. affected by repair from other than an authorized 3D Service Center.
3. Warranty is void if the product is not operated in accordance with furnished instructions.
4. Any product that has been altered or repaired in a way that 3D feels has affected the performance, stability, or reliability, shall be void under this warranty.
5. 3D Acoustics will pay *all* necessary shipping costs within the Continental United States, provided prior authorization from our Customer Service Department has been issued. Packaging will be provided where needed.

FOR YOUR OWN RECORDS

Model # 3D6/1013 Date Purchased 10/21/78
Dealer's Name 4
Comments: 112

APRIL 1981 • \$1.25

Stereo Review[®]

VIDEO GOES AUDIO

STEREO TV IN JAPAN: A preview of the hardware

STEREO TV IN THE U.S.: How soon will it be here?

Julian Hirsch discusses

AMPLIFIER OUTPUT-CURRENT RATINGS

EQUIPMENT TEST REPORTS:

- Kenwood KA-1000 Integrated Amplifier
- Realistic STA-2250 Stereo Receiver
- SAE 2401 Power Amplifier
- Soundcraftsmen AE2420-R "Scan-Alyzer"
- 3D Acoustics Three-piece Speaker System

DISC SPECIALS:

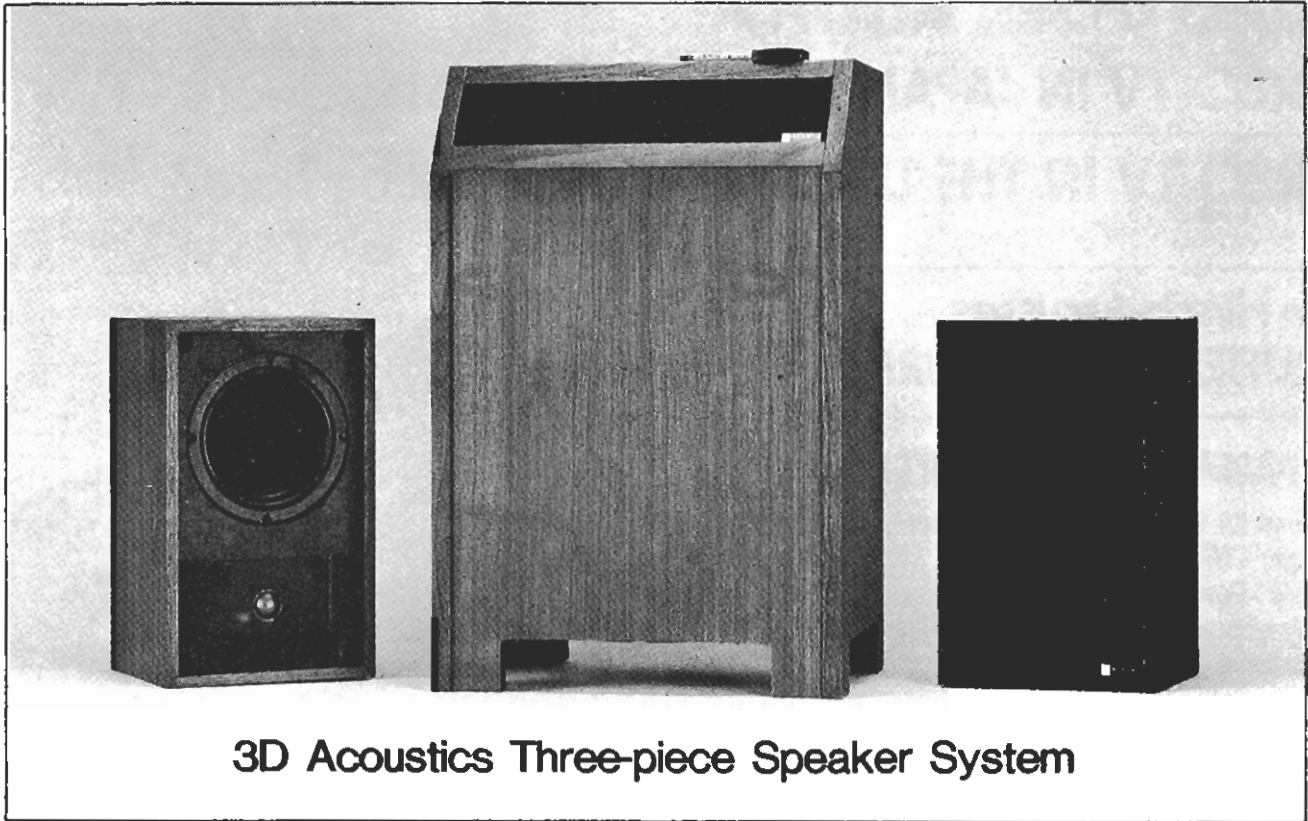
Don McLean: "Chain Lightning"
Warren Zevon: "Stand in the Fire"
Blondie: "Autoamerican"
The new "42nd Street"
and ... Todd Rundgren,
Peter Allen

MONTEVERDI: *Return of Ulysses*
ROSSINI: *William Tell*
and ... Gidon Kremer,
Heinz Holliger



Equipment Test Reports

By Hirsch-Houck Laboratories



3D Acoustics Three-piece Speaker System

ALTHOUGH three-piece speaker systems (a bass module and two small satellites) are as old as stereo itself, they seem to be enjoying renewed popularity these days. Usually they take the form of a pair of conventional speakers, either bookshelf or compact floor-standing units, to which the user has added an accessory "subwoofer" to extend the bass response. However, a number of such systems are now being offered by several manufacturers.

The advantage of this configuration is obvious: the smaller speakers can fit into the room decor more easily, yet the effective bass response of the system can match or surpass that of a pair of large speakers. Sometimes the bass module has separate sections for the two channels, and sometimes the left and right channels are mixed and heard through a single bass speaker. The effect in either case is much the same, since the combined bass is usually limited to frequencies below about 100 Hz, where there is little or no stereo information. For the same reason, the bass module can be located almost anywhere in the room, regardless of the placement of the satellites.

The Three Piece Loudspeaker System from 3D Acoustics (5 Sunrise Plaza, Valley Stream, N.Y. 11581) is a moderate-price system consisting of a pair of very compact

two-way speakers (the 3D6) and a common-bass speaker (10B). For convenience, we will refer to the complete system as the 3D6/10B. Each 3D6 satellite is in an oiled-walnut-veneer wooden cabinet measuring 14 inches high, 8½ inches wide, and 7¼ inches deep and weighing 13½ pounds. Each sealed enclosure contains a 5-inch cone speaker crossing over at 2,000 Hz to a 1-inch dome tweeter. The spring-loaded input terminals are recessed into the rear of the cabinet.

The 10B bass module is a floor-standing unit whose finish matches that of the satellites. It is 24 inches high, 16 inches wide, and 12 inches deep; it weighs 37 pounds. The bass unit is supported about 2 inches from the floor at its corners, and its single downward-facing driver radiates into the room through the four "slots" between the floor and the base of the cabinet. The bass driver is a nominal 10 inches in diameter and handles the mixed bass from both channels. Its enclosure is vented through a 2¼-inch-diameter port located behind a narrow black grille on a sloping panel across the upper front of the cabinet. The outputs of the two amplifier channels are connected to spring-loaded input terminals (8 ohms nominal) on the back of the 10B. Next to them are output terminals to which are connected

the left and right 3D6 satellites. The 100-Hz crossover network between the woofer and the other speakers is located in the 10B, and the system has no level or balance adjustments. Its power rating is 30 watts minimum, 150 watts maximum, per channel.

Although the installation instructions suggest placing the satellites against a wall, 3D Acoustics also manufactures accessory metal stands for the system; these support the 3D6 speakers 27 inches from the floor and allow them to be located some distance from the wall. The bass unit should be located against a wall for best response. The price of the complete 3D6/10B system is \$400 on the East Coast, \$450 in the West. A pair of SS-1 stands is \$65.

● **Laboratory Measurements.** The 3D6 speakers were placed on their stands about 2 feet from the wall and 8 feet apart. Their response in the reverberant field of the room was averaged and smoothed over the measurement range of 100 to 20,000 Hz. Frequency response of the bass unit was measured by laying the 10B on its side and placing the microphone close to the woofer cone. A second curve was plotted on the same chart with the microphone placed at the opening of the port.

test reports

The acoustic contribution of the port was so much smaller than that of the cone that it could be ignored in determining the total bass response. The woofer output reached its maximum at 70 Hz and fell off at lower and higher frequencies (the high-frequency rolloff was due to the internal crossover network). The smoothed middle- and high-frequency curve, corrected for the known room response, was spliced to the bass curve to form an overall composite response curve. It was very smooth, with a broadly depressed midrange output between 400 and 1,500 Hz. The extreme-high-frequency output was remarkably uniform, varying only ± 0.5 dB from 7,000 to 20,000 Hz. The dispersion of the dome tweeters was good, with diverging response curves from the left and right speakers appearing only above 7,000 Hz (one of them was measured on its axis and the other about 30 degrees off axis). The overall frequency-response curve of the system was within ± 3.5 dB from 40 to 20,000 Hz, representing excellent performance for any speaker system measured in a "live" room.

The woofer distortion at a nominal 1-watt (2.83-volt) input was very low (less than 0.5 per cent) down to 60 Hz, rising to 2.8 per cent at 35 Hz and 6.3 per cent at 30 Hz. A 10-dB power increase resulted in distortion readings under 1 per cent down to 70 Hz; they increased to 3.2 per cent at 40 Hz and were still only 6.3 per cent at 30 Hz. The system impedance averaged about 4 ohms from 20 to 100 Hz, rose to a maximum of about 60 ohms at 1,250 Hz, and fell to an average of 6 to 7 ohms between 4,000 and 20,000 Hz. This is a relatively insensitive speaker system, since an input of 2.83 volts of pink noise in the octave centered at 1,000 Hz produced a sound-pressure level of only 83.5 dB when measured at a 1-meter distance.

● **Comment.** Our measurements of the 3D 3D6/10B combination suggest that it is a rather good system in respect to frequency response, smoothness, and distortion. However, our listening tests revealed that the measurements do not adequately describe its remarkable performance.

We use the term "remarkable" advisedly, especially in view of the modest price of the system. The sound was immediately heard to be open and sweet, with no strain or spatial discontinuity between the satellites and the bass speaker. When we compared this system with a pair of very fine speakers located next to the satellites (which were on their stands), we found to our amazement that the two were frequently indistinguishable in an A-B comparison, except for occasional spatial differences that were of no consequence (since there was no way to determine which, if either, was more "natural"). This was difficult to accept, since the comparison speakers cost almost *ten times* as much as the 3D system, so we listened over a period of weeks using both disc and FM sources—and still had to conclude that the two sounded so much alike that we usually had to look at the switches on the comparator panel to determine which was playing!

The smooth, extended high-end response of the 3D6 left nothing to be desired (each of the satellites has foam-plastic damping sheets on three sides of the tweeter, presumably to smooth its polar response, but this was the only external sign of special construction techniques). The midrange dip, incidentally, was never audible as such. This may have been due in part to the acoustics of our listening room, since the comparison speakers exhibited a similar, but much smaller, dip when measured under identical conditions.

The only consistent sonic difference we

heard between the speakers was a feeling of added warmth in the sound from the 3D system, probably due to its slightly emphasized output in the 60- to 150-Hz range. It was not at all objectionable and would not have been noticeable except in comparison with the other speakers, which were very flat through that range.

Another genuine difference between the two systems was in their ability to handle very high amplifier-power levels. When we drove them with peak amplifier outputs of 200 watts or more, the sound of the 3D was slightly less "open" and we could sense the onset of compression in the program peaks (the sound did not get "mushy" or otherwise distorted, however). The comparison speakers, on the other hand, were totally unstrained at any power level we used.

We do not wish to imply that the three-piece 3D system is in all instances necessarily better than (or even as good as) some other speakers costing many times its price. In our room it definitely *was* (with the exceptions noted), but no doubt things would be different in a totally different environment. We can say, however, that in our listening room we have never heard a speaker (played at reasonable levels) that sounded significantly better than this one, aside from the questions of their ability to play louder or to produce another octave of clean bass. In our comparisons we used other systems selling at prices from double to ten times that of the 3D; they were all very fine-sounding speakers, and the 3D was just as fine. The 3D three-piece system is a real "sleeper," the sort of discovery that adds spice to a reviewer's life and prevents him from becoming jaded under constant exposure to look-alike and sound-alike components at ever-increasing prices. This is really something unusual. Hear it if you possibly can!

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3D ACOUSTICS

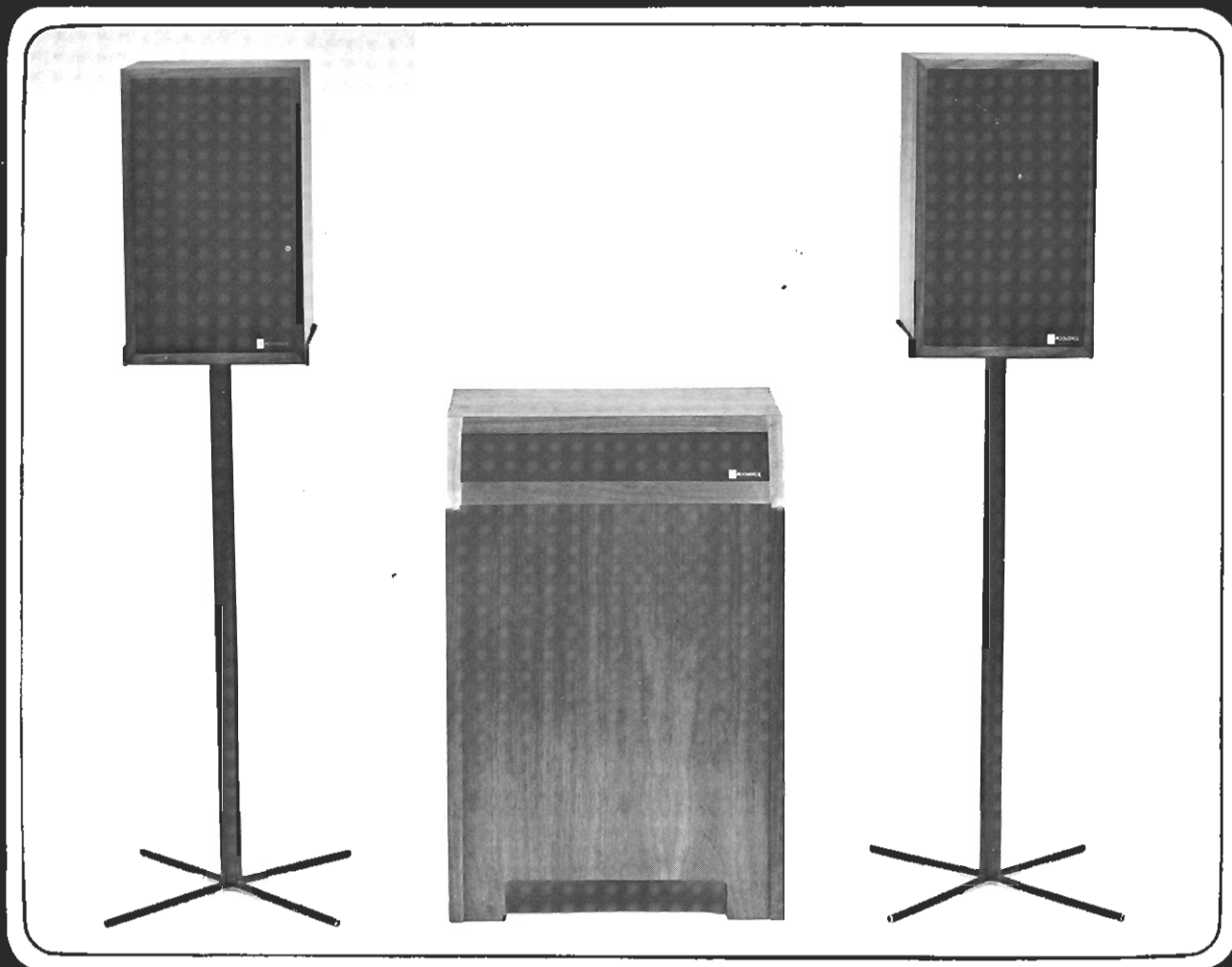
CONTROLLED DISPERSION LOUDSPEAKERS

175 Heritage Avenue / Portsmouth, NH 03801

(603)-436-8003

3D ACOUSTICS

THREE PIECE LOUDSPEAKER SYSTEM



FACT The single most important hi-fi purchase you make will be your speakers. More than any other component, the way your system actually sounds is primarily influenced by the speakers you select.

PROBLEM Conventional full-range loudspeakers use two or more drivers, jammed into the same box, to reproduce from the very low to the very high frequencies. The size of this box is typically determined by the size of the low frequency (bass) driver. This usually results in a fairly large box, well suited for the lows, but not always for midrange and highs. This is where many trade-offs and compromise begin.

SOLUTION The 3D solution was the design of a compact bookshelf speaker, capable of accurately reproducing all but the lower two octaves of music. The drivers and the box were critically matched with minimal compromise. We then developed a ten inch driver with a specially designed cabinet for the lower two octaves. This single driver has twin voice coils so that it may handle both left and right channels simultaneously. Since low frequencies are omni-directional in their dispersion pattern, the bass module can be placed almost anywhere in a room.

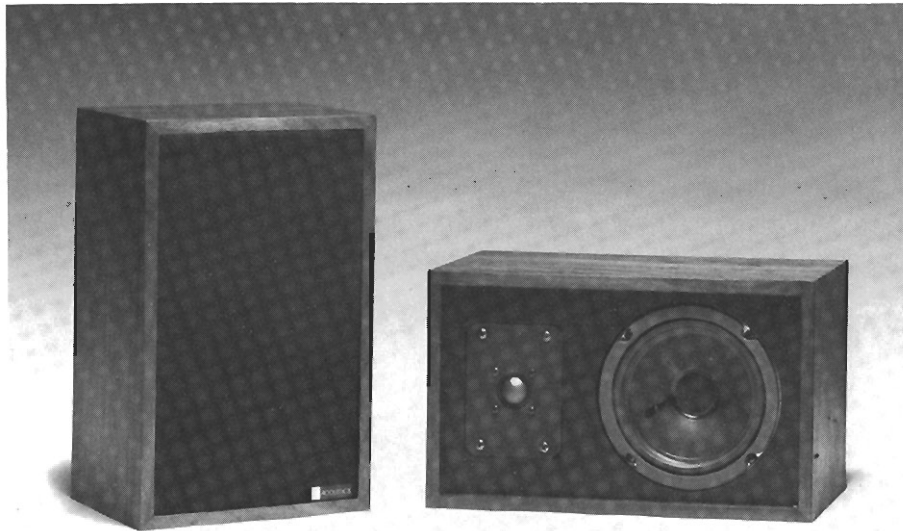
THE 3D SYSTEM

DESCRIPTION The 3D Acoustics three piece loudspeaker system is a full range, high accuracy transducer. Powerful enough to fill a larger than average sized room with music, yet it is compact enough to blend into virtually any listening environment. The 3D Acoustics loudspeaker system reflects the advantages of a carefully plotted design program.

DESIGN The 3D system is comprised of two bookshelf speakers, and a single bass module. The logic behind the three piece design is simple: proper interfacing of cabinet and driver is essential to good speaker performance.

Placing the low frequency driver in its own specially designed enclosure enabled us to more closely focus on driver to driver, and driver to cabinet interfacing. This was a major step in overcoming the compromises associated with conventional speaker design.

3D BASS MODULE Clean solid bass is critical to the overall depth and realism of sound reproduction. Too much bass will overshadow the rest of the music, and in time become audibly fatiguing. At the same time, lack of bass diminishes the lifelike qualities essential to good hi-fi. The 3D bass module has been carefully balanced to provide full, tight bass, down into the lowest octave of music. The unit uses a ten inch high compliance, low resonance woofer. This twin voice coil driver handles both left and right channels simultaneously. The woofers are hand treated with a damping control compound that optimizes bass response. Its enclosure is a resistively loaded, tuned port design that provides smooth extended low frequency output. Two independent crossover networks insure a smooth transition from woofer to satellite, and maximize the phase coherency of the system.



3D SATELLITE

The human ear is most sensitive to frequencies in the 300 - 3000Hz bandwidth. As critical as these frequencies are, many speakers trade-off accuracy in this area, opting for fuller bass and extended highs. Although extended bandwidth is important, we don't feel accuracy should suffer because of it.

The 3D satellite's primary responsibility is for frequencies above the 100Hz mark (the woofer takes over below that point). Thus the satellite system focuses on the critical mid and high frequencies without compromise.

A six inch controlled output driver is crossed over at 2kHz to a one inch cloth dome tweeter. Its intricately designed crossover network maximizes phase coherency between drivers and makes the actual crossover point audibly undetectable.

The satellite produces a well focused, three dimensional stereo image and has a high end that is smooth and silky, through and beyond 20kHz. The midrange is uncolored, clear and open (a trademark of 3D Acoustics).

COMMENT The 3D Acoustics loudspeaker system is the result of a two and one half year research and development program. There are transducers on the market costing much more. But are they much better? Give the 3D system a careful comparison. We think you'll agree, that when it comes to *price vs. performance*, 3D is a tough one to beat.

RELEVANT SPECIFICATIONS

	Inches	Metric
Size: Satellite	14"x7¼"x8½"	(35.6 x 18.4 x 21.6 cm)
Woofers	24"x13¾" 16"	(61 x 35 40.6 cm)
Weight: Satellite	15 pounds ea	(6.8 kg ea.)
Woofers	44 pounds ea	(20 kg ea.)
Enclosure type:	Satellite acoustic suspension Woofers resistively loaded/tuned port	
Total System Impedance	8 ohms nominal	
System frequency response:	32-20000Hz	
Minimum power:	30 watts per channel RMS	
Maximum power:	150 watts per channel RMS	
Crossover:	100Hz, 2kHz	
cabinet finish:	oiled walnut veneer	
Guarantee:	3D offers a Full Five Year Warranty on every speaker we sell. Quality control inspections are made at every critical stage of production, and an in-depth laboratory analysis is made of every finished speaker. This is our guarantee of quality, and your guarantee of satisfaction.	

3D ACOUSTICS

3D Acoustics is a New England based company, dedicated to research and development of high quality loudspeakers for home and studio use. In our quest for "perfection", we have incorporated much of today's technology with a few innovations of our own. The result: moderately priced loudspeakers, truly representative of the state of the art.

the \$ensible Sound

3D ACOUSTICS

Three Piece Loudspeaker System

3D Acoustics, 101 Lafayette Rd., Portsmouth, NH 03801
Main Office: 5 Sunrise Plaza, Valley Stream, NY 11581

PRICE: 3D6 - \$225 (main satellites) (\$250 west coast)
10B - \$235 (matching bass module) (\$250 west coast)
3D610B - \$400 (complete 3 piece system) (\$450 west coast)
3D6 stands - \$65 (\$75 west coast)

SOURCE: Manufacturer loan

SIZE: 3D6 - 14"H × 8.5"W × 7.25"D - 15 lbs.
10B - 24"H × 16"W × 12"D - 44 lbs.
3D6 stands - 26.5"H

Getting more than your money's worth is surely an impossibility in today's marketplace, isn't it? Perhaps not. If we use our normal judgement criteria in considering the performance of these 3D systems we are left with no alternative but to conclude that, based on sound and dollar value concepts, they offer so much more than the current competition that the buyer certainly appears to be getting more than he's paying for. Yes Virginia, there is a Santa Claus, and for the present it looks like he's running his operation out of Portsmouth, NH.....wonder if the 3Ds stand for Dasher, Dancer and Donder.

We don't mean to imply that the 3D systems are ultimate in nature, or some sort of sonic grail that should be coveted by all audiophiles. The systems just offer incredibly good value in terms of sound quality return for dollar spent, and at their price, should open up a new vista of accurate sound reproduction to many who could previously ill afford it. With these systems 3D Acoustics has proven that pleasing, accurate, full - range sound reproduction can be priced within the range of virtually anyone. We feel these products will change the future of speaker systems marketing in much the same way that Hafler and NAD affected electronics marketing. A new day of \$ensibly priced high quality sound is dawning.

FEATURES: A high level of construction quality using REAL walnut veneers (hard to believe at these prices). The 3D6 main systems can be used alone or with the matching single channel 10B bass system.

BALANCE: As with any smaller system the 3D6 used alone is shy of low bass. When used with the 10B all frequencies but the bottom octave are represented. When operated as a three piece system the transition from two stereo channels to the common bass channel

is very smooth and accomplished without midrange or "hole in the sound" type of problems. Long time readers know that, as a rule, we are not in favor of mixing stereo channels for common channel bass reproduction. But, since rules are proved by their exceptions, we wish to make an exception here. The 3D common channel bass system is required, for obvious reasons, in order to keep costs down. Also, it works; we're not sure why, but this is the most successful common channel bass system we've yet encountered.

IMAGING: Simply the most realistic we've heard at the price. The system allows the air and ambience of a performance to pass through to the listener. This is an uncommon trait for a low priced system and is supplemented by stable sound source localization. As with any three piece system improper placement of the bass system can degrade localization and center image, but thankfully, best results are not subject to finicky relationships of the system's pieces. We found the 'best image was obtained with the bass commode located between the two satellites with exact fore and aft location relying on the demands of each individual room.

BASS: Alone, the 3D6 system is fairly flat to 70Hz. It is free of the exaggerated upper bass that characterizes the sound of so many competing small sized systems. Subjectively, performance is tight and controlled as long as volume levels are kept within reason. With the addition of the 10B the dynamic capability of the system is increased substantially and full range performance, unknown to us elsewhere at this price, is obtained. Probably the most obvious feature of the 610Bs bass performance is that it is not predominant or bloated, and does not call attention to itself at the expense of some other part of the frequency range, or worse yet,

at the expense of total musical enjoyment. Low bass is available to about 35-40 Hz and it is propagated in such a manner that, while having good energy level, did not cause incurable interaction problems in the nine different rooms that were used to audition the system.

Most three piece systems of our experience are bass predominant, the trait of bass heaviness almost seems to be a marketing prerequisite of the genre; the 3D is not such a system. In fact, the only low range criticism noted by the listening panel was that the bass impact area between 80 and 120 Hz was a bit reserved and lacking somewhat in the gut-punch of the live experience.

MIDRANGE: Very low in coloration when used as a three piece system. Coloration and strain are noticed at much lower volume levels when the 3D6 units are used without benefit of the bass system. The sound quality is airy and clear without sounding peaky. If driven too hard the system will lose clarity and compress rather than getting hard and glassy. We've heard better midrange performance, but nowhere near this price. A fitting comparison is that the 3D6s are direct sonic competition to the very expensive mini-monitors (LS3/5A, JR-149, Fried B2, etc.) at far less than half the cost. With the 610B bass module added, the mini-monitors cease to offer competition sonically and from

a price / performance viewpoint they begin to look a little silly.

TREBLE: Very extended, open and sparkling in nature. Subjectively there is no audible roll off and all the high harmonics are passed in their full glory or their full gloom, depending on the quality of the program source. Some listening panel members noted that record surface noise and tape hiss seemed slightly more noticeable on the 3Ds than on their reference systems. Those that noticed this (4 out of 12) also commented that the 3D system was also more extended in the high frequencies than their reference system. No brightness or grit was noted.

EFFICIENCY: Medium. We would recommend 40 watts a channel minimum except in cases of lower powered amps with very high headroom like the NAD 3020.

CONCLUSION: What more can we say? Do yourself a favor, audition the 610B system. Even if you aren't looking for a speaker system you will be exposed to a product that you can recommend to your non-monied audiophile friends.

Obviously, we at *The Sensible Sound* are delighted with this system because it is living proof of our contention that quality sound does not have to be expensive.

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THE COMPLETE BUYER'S GUIDE TO
**Stereo/Hi-Fi
Equipment**



**3D Acoustics Three Piece
Loudspeaker System**
\$400/system

In November, 1977, *The Complete Buyer's Guide to Stereo Hi-Fi Equipment* compared the three currently available "minispeakers", and as an addendum we mentioned the notion of adding a single, summed-bass subwoofer to augment the low end. At the time, this notion was fairly adventurous: there was only one subwoofer available that included the passive circuitry required to make a three-piece system work with a single stereo amplifier.

In the three years since the appearance of that article, a great number of manufacturers have jumped onto the subwoofer/satellite bandwagon, some with greater success than others. There are some technical traps that need to be skirted in order to achieve the desired results and some companies, in their haste to bring a product to market, fall into one or more of them. Their products, while impressive initially, are plagued with such problems as overly heavy midbass, unstable imaging, and high distortion. Which brings us to the product under discussion, for it has none of these difficulties—in fact it's one of the best speaker values on the market today, whether judged against other three-piece systems or more conventional full-range speakers.

The 3D Acoustics Three Piece Loudspeaker System is a fairly typical system in that it uses a pair of bookshelf speakers (14" x 7 1/4" x 8 1/2") crossing over at 100Hz to a single woofer commode (24" x 13 3/4" x 16"). The satellites are somewhat larger than the usual minis, and are finished in

oiled walnut veneer (as is the woofer). Amplifiers rated from between 30 and 150 watts per channel are recommended. The system is rated at eight ohms and should be safe to use in parallel with a second system in another room.

Auditioning the 3D system we were immediately impressed by the sense of spaciousness it gave the music. The stereo image was excellent, but without the dry, clinical effect imparted by some other speakers that are also good in that regard. It was as though the instruments were well placed in space rather than finely etched on a background. This sense of dimension is a characteristic of only a few very fine speakers, all of which cost far more than the 3D system. The overall smoothness of the sound was reminiscent of some of the better British minimonitor class speakers, although at a far lower cost, and with a much better low end.

It is tempting to say of the 3D System that it is one of the finest three-piece systems on the market, and surely the best for the money. That's too limiting; rather, let's just call it an excellent speaker system (regardless of the number of boxes) and a spectacular bargain. ■

3D ACOUSTICS
CONTROLLED DISPERSION LOUDSPEAKERS

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Portsmouth, NH 03801
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