

## Bryston 9B-ST Pro Wins Tec Award

Mix Foundation for Excellence in Audio has presented the Bryston 9B-ST Professional Amplifier with their 1999 TEC award for outstanding achievement in the audio industry. The award is given to the product that represents the best Technical Excellence and Creativity in the category of Amplifier Technology.

A group of 300 recording industry professionals nominate several products that have been in use over the previous year which they feel improves the technological state of the recording process. The ballots are tabulated by Mix Magazine and the top four or five items in each category are then placed on a ballot card which is attached to the June issue.

The readers then vote for the products they like and the award is presented at a special awards dinner at the annual AES show.

### Bryston: Product of The Year... Again!

Once again audio Video International Magazine has awarded Bryston their Hi-Fi Grand Prix Award for four of our current products.



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## A Sound Treatment

A number of people have expressed interest in an article dealing with optimizing the acoustics of their listening rooms. I will attempt to describe the acoustical treatments available in the marketplace and the application of these products in your music room. A room is a resonant chamber. This chamber's resonance characteristic is a function of its dimensions and the decor within the enclosure. A square, totally bare room would exhibit the worst possible acoustics for an audio playback system. Square rooms have standing-waves which reinforce and cancel each other in a way that places resonance peaks and dips over a very narrow range creating frequency aberrations of a severe nature.

Bare rooms have early reflection problems and ringing [HIGH Q] problems which produce sounds and images which are not intended. There are a variety of products on the market (Tube-Traps, RPG, Sonex etc.) which allow the music lover to tailor the acoustical response in his room in a more desirable way than simply accepting the listening room as is. The purpose of these acoustical aids is to control the unwanted contribution of this resonant chamber we call a sound room.

In the concert hall we have three basic effects going on which inform our brain of the acoustical qualities of this environment. The direct wave coming at you from the instrument(s), the first reflected wave which is caused by nearby boundaries and the reverberant energy which is the random sound after it has

bounced around and, has no direction. The direct sound tells the ear-brain where the sound source is originating from or its position in space. The first reflection, if perceived within the first 10 to 20 milliseconds will tend to confuse the brains ability to differentiate the first sound from the first reflected sound, so you end up with a vague image. The later reflected random sound tends to add a sense of spaciousness telling the brain the size of the environment.

In a good concert hall the direct sound is 20 to 30 milliseconds ahead of any first reflection and the reverberant sound field is as much as 100 milliseconds later in time than the direct sound. Obviously, this is what we should attempt to achieve in our own soundrooms to approximate the concert condition. It should be noted at this time that pop or rock recordings are usually recorded in an acoustically dead studio environment in the "near field" which tends to prevent first reflections and high Q [ringing] conditions. The point is, that if your room approximates the conditions of a good concert hall then rock or pop recordings will also sound excellent.

Now, the question is, how do we attain this sonically admirable condition in our measly little 12 foot by 18 foot music room? Well, you place your speakers so that the direct sound reaches your ears first, and then use absorption at the point of first reflection along each side wall. Finally, have lots of diffusion behind you to give a greater sense of space to the room.

In the Product of the Year category the awards went to the:

BP-25 Preamplifier,  
4B-ST Power Amplifier,  
B-60R Integrated Amplifier,  
9B-ST Power Amplifier

The Hi-Fi Grand Prix competition winners are determined by the votes of 38,000 audio retailers throughout the United States, with confirming review by a Grand Prix committee of leading audio critics and writers.

Launched in 1989 the Grand Prix Award honours those products which in the past year have introduced true advances in the industry and outstanding value for the consumer. The criteria for selecting the best products are based on product quality and sales performance, not merchandising or advertising programs.

They are:

*Fidelity of signal reproduction.*

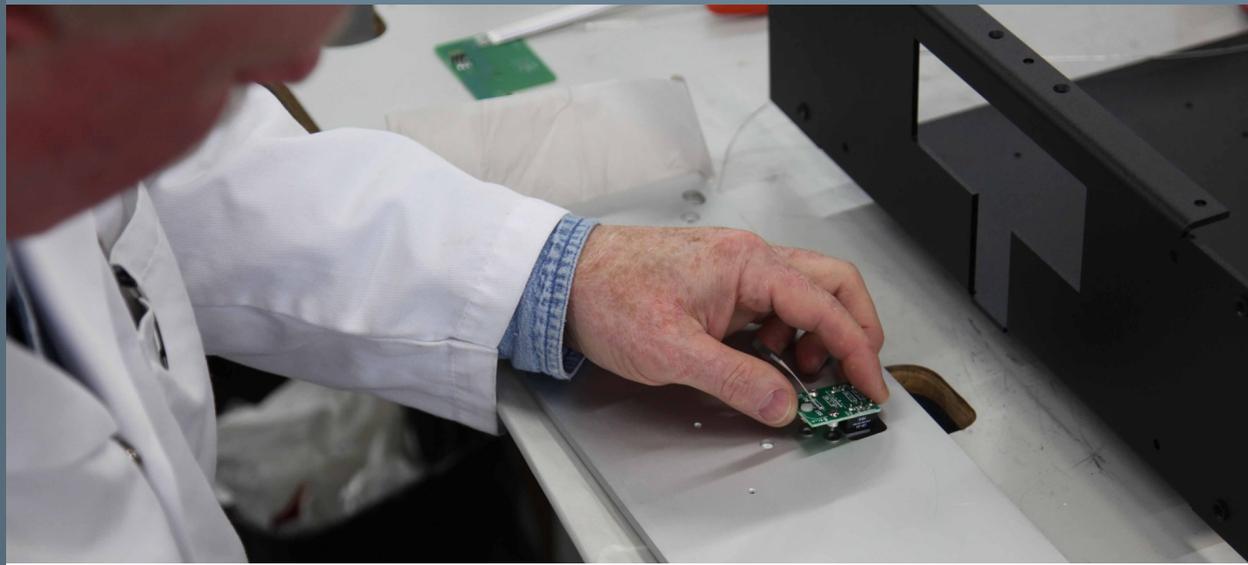
*Design/engineering.*

*Reliability.*

*Craftsmanship & product integrity.*

*Value for price relationship.*

The BP-25, 4B-ST, B-60R and 9B-ST amplifiers are featured in a special 60 page Grand Prix section in the November 99 issue of Audio Video International.



Products such as Tube-Traps can be placed in all the room corners to reduce standing waves and ringing (Q) in the sound room. Tube-Traps or Sonex can then be applied at the first reflection point along the side walls. You find these first reflection points by sitting in your listening chair and letting someone with a mirror walk along the side wall with the mirror flat against the wall. When you see the loudspeaker in the mirror this is the first reflection point - sound travels just like light in straight lines - and you place the absorptive material at this point. This prevents the first reflection from arriving too close in time to the direct wave and therefore you achieve a much more coherent focus in the sound-stage.

Sound diffusers can then be placed behind your seating position in order to provide random non-directional energy which adds spaciousness to the room because this random energy is arriving much later in time than the direct energy from the speaker. Another point to consider relevant at this juncture, is such household items as furniture chairs, plants, statues etc. can also be used in these positions to help reflect, diffuse and absorb sound energy. Obviously these items will not be as effective as specialized acoustical products, but it is

definitely a step in the right direction.

In conclusion, the main point to remember is that the early reflections and the lack of later random energy is what the ear-brain interface uses to calculate the fact that you're in a small space. Therefore, reducing the effect of first reflections creating random diffused energy, reducing the effect of standing wave patterns and ringing [high Q] in-your music room fools the brain into assuming you're in a much larger space.

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**A Lifetime of Music**

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