

THE B.A.S.

The Boston Audio Society
P.O. Box 7
Boston, Mass. 02215

SPEAKER

April
1973

The Boston Audio Society does not endorse or criticise products, dealers, or services. Opinions expressed herein reflect the views of their authors and are for the information of members.

April meetings. This month's meeting of the B.A.S. is a doubleheader on the weekend of April 14- 15, in honor of the IRS.

On Saturday April 14 at 2:30 pm in Room 250 of M. I. T.'s Building 10 (at 77 Massachusetts Avenue in Cambridge): Paul Klipsch, the developer of the Klipschorn, will give a talk. He has strong feelings about 4- channel sound as well as speakers and is a witty and charming man, so it should be interesting. We invited Mr. Klipsch (and Bill Bell, proprietor of the Music Box in Wellesley, the area's Klipsch dealer) to speak to the B.A.S. on Sunday the 15th, but the talk at MIT was already scheduled and it would be silly to have the same talk on the following day across the river; so instead all members of the BAS are invited to Klipsch's talk at MIT on Saturday.

On Sunday April 15 at 6:00 pm, in Room 314 of BU's Sherman Union at 775 Commonwealth Avenue, we will have a free- for- all question- and- answer session. Several members have requested such an open forum: here it is.

If you bring (or mail back in advance) the enclosed questionnaire, more of the meeting can be devoted to discussing the direction you want the Society to take. What should the Society do that it hasn't done, and what are we doing that we shouldn't? What useful services can we, by common effort, provide each other? Is the BAS fulfilling its purpose for you, and if not, what is its purpose? Also bring questions that you haven't been able to get: through to "Shop Talk" with; questions stimulated by advertising claims; problems you have encountered; queries about the meaning of specifications and the interpretation of test reports; and bring your recommendations of equipment and recordings. The more people who participate by bringing either questions or answers, the more successful the session will be, so write down questions or comments as they occur to you and bring them in.

Dr. Heil. The May meeting of the BAS will not be held on the third Sunday of the month. In order to accommodate the schedule of our featured guest speaker, the meeting will be on Thursday, May 3 at 7:30 pm, in Room 314 of BU's Sherman Union., Dr. Oskar Heil, the inventor of the Heil "Air Motion Transformer" loudspeaker, which has just been marketed by ESS, will describe the speaker and demonstrate how it works. He is said to be a fascinating and volatile talker and his speaker system is at least novel and perhaps revolutionary, so it should be worth going out of our way for. Feel free to invite knowledgeable friends.

Adventures in Sound. Henceforth the Sunday meetings of the BAS will be scheduled at 6:00 instead of 5:30, so that members will be able to hear Victor Campos' stunning program (3:30 to 5:00 on WGBH). Victor's planned repertoire for this month is as follows.

- April 8. Saint-Saens: "Danse Macabre" (Ormandy; RCA)
 Mahler: Symphony #2, "Resurrection" (Abravanel; Vanguard)
- April 15. Chabrier: "España" (Ormandy; RCA)
 Glière: Sym. #3, "Ilya Murometz" (Ormandy; RCA)
 Ravel: "Daphnis &, Chloe" Suite #2. (Ormandy; RCA)
- April 22. Rimsky- Korsakov: "Scheherazade" (Ormandy; RCA)
 Rameau: "Le Temple de la Gloire" (Kapp; Candide)
- April 29. Dvorak: Slavonic Dance #8 (Ormandy; RCA)
 Debussy: "La Mer" (Ormandy; RCA).
 Mozart: Requiem (Colin Davis; Philips)

European records. As a service to members, the BAS is establishing a record importing service to facilitate buying European recordings not released here and superior European pressings of many discs which are released in this country in second- generation domestic pressings (such as EMI recordings sold here as Angels and Erato originals reissued by MHS). Dave Letterman of WBUR is Chairman of the Record Importing Committee. The committee will, obtain British record catalogs, will keep track of fluctuating currency exchange rates, and will order records for you. Through group purchase, shipping costs will be eliminated. Lists of recommended European records will be developed from members' experience and from the consensus of British record reviewers (who are generally more reliable musically and more sound- conscious than their domestic counterparts).

Revox. Plans are being formulated for a group purchase of Revox tape recorders. If you are interested, get your name on the executive committee's list in order to be kept informed of arrangements.

BAS Publication. How should your FM antenna be aimed to ensure the least distortion and best stereo? Is your antenna adequate for your location? What is the optimum tracking force for your cartridge? Is your cartridge wired out of phase? Is this FM broadcast actually in mono despite the stereo light? Are your tape recorder's heads in phase with each other at all frequencies? Does your cartridge have equal output on both channels? Does your stereo balance vary from source to source or shift with various settings of the volume control. Do you need a new stylus assembly for your phono cartridge yet? In this month's BAS publication, Peter Mitchell shows how the: "null" switch, a simple modification to your stereo system, will enable you easily to answer all these questions precisely and unambiguously. You can also find other uses for the null switch: to expose clipping due to input overload of a preamp, or distortion in a stereo tuner (due to transmitter over- modulation or inadequate IF bandwidth or misalignment), or mike overload; use the null switch to set all input or output level controls on components for precise and consistent channel balance; and so forth. Try it, and if you find more uses, let us know.

Equipment Listing. Two new items have been listed:

- Advent 101 Dolby (still under warrantee) \$80. Al Foster 353- 6114
 Thorens 150 turntable and arm with Shure Supertrack cartridge (brand new).
 Dennis Boyer

For information about equipment previously listed, see Joel Sandberg at the BAS meeting or call him (244- 2357). To list items, send information to our P.O. Box.

March meeting. The BAS met on March 18 at the Boston Conservatory with about 50 attending. A late start was caused by the hall's being occupied by another recital until after 6:00 (though it had been scheduled to be available at 4:30). It was observed that quite a few members contributed to the successful BSO Musical Marathon; we predict that service shops will soon be replacing woofers and tweeters punctured by wildly- waved prize batons.

The New York Audio Society was so impressed by Dr. Goldwater's monograph on "Audiophilia" that they requested 100 copies for their membership and in exchange sent us 100 copies of their recent newsletter, S/N, containing a survey of matrix and discrete 4- channel decoders. If you did not get a copy of the NYAS "S/N" you can get it at the April meeting. Henceforth the BAS and NYAS will exchange several copies of each newsletter, for circulation among interested members. In addition to setting up this exchange Al Foster was responsible for obtaining the Sheffield direct- disc record for those who ordered it.

Braving a forest of microphone stands, Laurie Coté and Friends performed a concert consisting of the Trio in A Minor for Clarinet, Cello, and Piano by Johannes Brahms and the Quintet in A Major for Piano and Strings by Antonin Dvorak. The performances were interesting and illuminated certain facets of the music, and the sound was thought- provoking in its superiority to records. This is not only due to the lack of limitations on frequency response and dynamic range; it is apparent that not even the best current recording and reproducing systems are capable of recreating at once the resonant, mellow warmth and the distinct clarity of the cello, for example - - one or the other of these characteristics is usually sacrificed in reproduced cello sound.

To express our thanks to the musicians for giving these performances, the executive committee has offered to give each musician a tape of the concert.

Attachment: You will find in addition to the usual publication of the Society an unusual attachment to this month's newsletter. It is a reproduction of a letter from Victor Campos in response to a note of encouragement sent him by Al foster in re "Adventures in Sound." Victor weighs in with his usual Combination of bombast and bullseyes - - start reading at paragraph three, and if his comments make you squirm a bit, they should.

In this context, the executive committee has noticed what could be called an excessive passivity on the part of the membership, and Campos's comments about RCA and WGBH only underline this situation. An important question is whether the BAS is really to be a participatory group or whether ten or a dozen members will work to satisfy the needs of the rest. If the latter is to be the case, perhaps the BAS should be disbanded.

One reason for the questionnaire included in this mailing and for the open meeting forthcoming is the feeling of the executive committee that it is operating in a vacuum. Little in the way of ideas or aid has reached us from the membership. Perhaps it is because we haven't listened, but this is your chance to be heard, to help shape the BAS in a way more useful to your individual interests. Please give us your feedback -- we cannot serve you without it.

And, take Campos's letter to heart. While you may not agree with his semantics you cannot deny that BAS members have been lax in the RCA record review and "Adventures in Sound" matters.

While this letter forms a single example, a generality can be drawn from it; if the BAS is to function properly, its members must give of their energies as well as partake of the offerings of others.

ADDING A NULL SWITCH TO YOUR STEREO

by Peter W. Mitchell

The Acoustic Research amplifier has the fewest gadgets and frills of any integrated amplifier on the market. Yet it has one feature that practically no other amplifier has, and it is something that every amplifier should have: a "null" or "Left minus Right" circuit. Such a circuit feeds to the speakers the difference information ("L-R") between the two stereo channels. A true mono source normally will cause the outputs of the two channels to be identical, so the L-R circuit will produce silence ("null" output). Here are some of the things you can do with such a circuit.

(1) Play a record which you know to be mono or tune in a mono FM broadcast; switch in the L-R circuit, rotate the balance control to obtain minimum sound, and switch out the L-R circuit. The stereo channels are now electrically balanced. If the balance control is not pointing to the index mark, you may want to make a new index mark or reposition the knob on its shaft. If your cartridge has more output on one channel than the other or is not quite level on the record, you may find a different balance point for phono than for FM, in which case perhaps you want two index marks for balance. Then, if the mono sound image is not located in space midway between the speakers, either your speakers differ in efficiency or (more likely) you have an acoustical imbalance in your room which will require off- setting the balance control to compensate.

(2) To determine the amount of stereo separation in any source, set the balance control to its electrical balance point and turn the L.- R switch on and off. If the L-R switch reduces the loudness only slightly, the stereo separation is extreme with little "central mono" energy. If the loudness is drastically reduced, the stereo separation is slight. It will be evident that many pop records have super-stereo (actually multiple- mono), while classical records usually have a lot in common between the two channels in order to present a stable image of the orchestra between and beyond the speakers. If, in the L-R mode, the loudness doesn't change when you switch from mono to stereo, then the source is mono. You will sometimes find FM stations broadcasting mono even though the stereo light on your tuner is lit.

(3) When installing a new cartridge, play a mono record, set the balance control to its electrical balance point, and switch in the L-R mode. If the loudness remains the same rather than dropping practically to zero, one of the channels is wired out of phase.

4) When a phono cartridge mistracks, it normally produces lateral and vertical tracing errors of roughly the same magnitude. But the lateral distortion is largely masked by the large lateral groove modulation due to the music. The vertical modulation of most records, on the other hand, is relatively small and so does not mask the vertical distortion. So when evaluating cartridges, the use of

the L-R mode makes the distortion much more clearly audible and permits a more accurate comparison of the tracking ability of cartridges. Similarly, when trying to determine the optimum tracking force for your cartridge, use the L-R mode to hear the mistracking most clearly; the optimum force is the value which if decreased would worsen the tracking of loud passages, and if increased would not improve the tracking. Also as the cartridge ages and the stylus suspension stiffens, you can monitor its deteriorating tracking ability with the L-R mode to decide when a new stylus assembly is needed.

(5) In FM stereo reception the presence of multipath (reflected) signals causes reduced stereo separation and increased IM distortion and birdies in the multiplex decoder. Using the L-R mode (with, of course, the balance control set to its electrical balance point on mono signals), you can hear the multiplex decoder output without the main FM signal. Rotate your antenna for the clearest and loudest L-R signal, and then switch off the L-R mode, and you will have the best FM stereo which your installation is capable of from that station. (This is especially valuable on WCRB, whose SCA subcarrier interference is very sensitive to multipath effects.) If you cannot obtain satisfactorily low noise and distortion in the L-R mode, then you probably want a better antenna or a better location for the antenna. Don't be surprised if the optimum antenna orientation varies from station to station.

(6) In many tape recorders the two channels are in phase at low frequencies but go more or less out of phase at middle and high frequencies. This has no important effect in normal stereo listening since the ear is insensitive to phase shift at high frequencies. But there are two occasions where it matters: (1) if a mono source or a source midway between the mikes is recorded on both channels and the channels are then mixed into mono on playback, severe frequency-response aberrations will be introduced; (2) if a matrixed (SQ, QS, RM, etc.) 4-channel recording or broadcast is taped and then played back, the 4-channel directionality will be altered. You can test your recorder for inter-channel phase shift by recording a mono source at equal strength on both channels; play back the tape in stereo with the balance control set to its electrical balance point. The louder the signal in the L-R mode, the more serious the recorder's interchannel phase shift.

Installation. Perhaps the most surprising thing about the L-R function is the contrast between its great usefulness and the small cost of installing it. I do not understand why it isn't universally included in amplifiers in place of some of the useless gadgets now commonly built in.

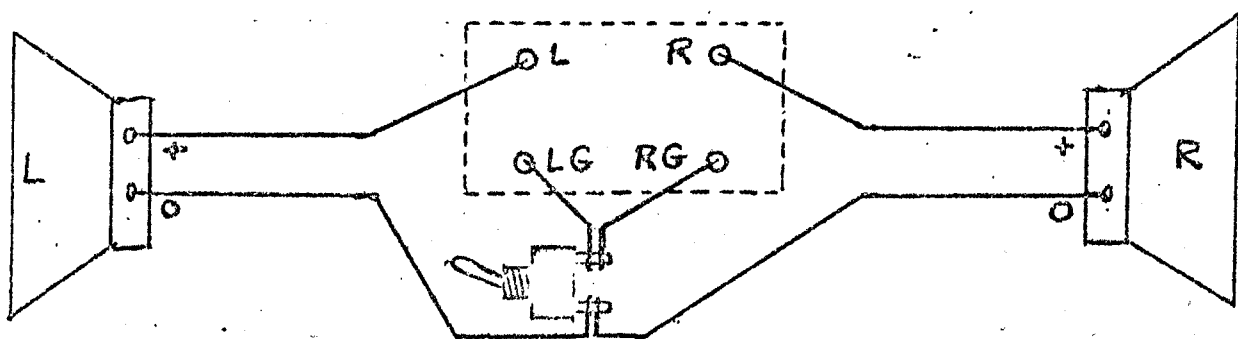
To add the L-R function to your stereo system, buy any single-pole single-throw (SPST) switch. Cut the wires which go from the "ground" or "common" amplifier output terminals to the speakers. Connect both ground wires coming from the amp to one terminal of the switch, and connect both ground wires coming from the speakers to the other terminal of the switch.

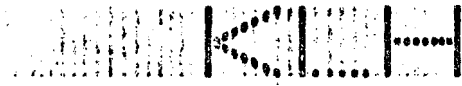
(Be careful to connect together the ground terminals, NOT the "hot" signal terminals. You may mount the switch in a box for esthetic reasons, but there is no hazard in leaving it exposed. Incidentally, the L-R switch is compatible with Dynaquad or other multiple-speaker hookups you may have.) Thus wired, the normal "off" position of the switch will provide the "L-R" or "null" mode. The normal "on" position of the switch, in which there is continuity through the switch, restores your system to normal stereo or mono operation as it was before the switch was installed.

This connection is safe with nearly all amplifiers and receivers made in recent years (since about 1965), since they already employ a common ground for the two stereo channels. To be sure, check the schematic of the amplifier or use an ohmmeter to ascertain that the "minus" or "ground" speaker terminals on the amplifier are connected internally to each other and to the chassis ground. If they are not, don't use the L-R switch...

If the amplifier's instruction manual advises you not to use a common ground speaker connection or a headphone junction box, don't use the L-R switch. If the amplifier contains provisions for a "powered center channel" to directly drive a center speaker or mono extension speaker, don't use the L-R Switch. (But if like the McIntosh 5100 it has a preamp center channel output to drive an external power amplifier, it's OK.) If in doubt, ask the manufacturer whether you may safely use a "common ground" speaker connection. If yes, go ahead.

Try it, you'll like it! It provides nearly as precise and unambiguous a guide to antenna alignment for FM stereo as a multipath oscilloscope, and much cheaper. In fact, once you get accustomed to using the L-R mode for antenna alignment, stereo program checking, and cartridge testing, you'll wonder how you ever got along without it.





KLH Research and Development Corp. / 30 Cross Street, Cambridge, Massachusetts 02139 / Telephone: (617) 491- 5060

March 22, 1973

Alvin Foster
Kenmore Square Box 7
Boston, MA 02215

Dear Mr. Foster:

First of all, I would like to thank you for supporting what I am trying to do and encouraging my efforts via your letter.

The low- frequency noise, akin to turntable rumble, is caused by the air conditioning system in the hall. Almost all the Joan Baez records have the same noise. We will try, to the best of our ability, to maintain the high standard of transmission that we established with the first "Adventures in Sound".

However, I am appalled by the apathy of the members of the Boston Audio Society. To begin with, they are the people who can derive the most out of "Adventures in Sound". Apart from your letter, not one member of the Boston Audio Society has had the collection of energy sufficient to sit down and write a postcard to WGBH. At this point in time, it appears to me that the specialty of the members of the Boston Audio Society is to sit and bitch and moan about everything that they think is wrong. Whenever they are afforded the opportunity to do anything constructive, they appear to drop the ball right down into the Grand Canyon where nobody can retrieve it.

I would not be so upset had I not had a similar experience with the letters to RCA. Nobody in my circle of acquaintances in the record business would provide free records for the members of the Boston Audio Society. But, having received three records equivalent at retail to about \$12.00, very few of you saw the need to voice opinions to RCA in any constructive way. Mind you, they were given the opportunity to do so, but very few had the required collection of their energies to sit down and write a letter. Partially as a result of this, RCA has already recorded one session in the same manner as Columbia's "Surround Sound".

Since such a lack of interest has been shown, I may just use the zero alignment tone prior to the broadcast rather than on the air. I think that whatever problems the members of the Boston Audio Society have in getting good material they deserve.

Sincerely,


C. Victor Campos
Manager, Acoustics Engineering

CVC/ceb

B. A. S. QUESTIONNAIRE

In order to evaluate how well we are serving you and to ascertain how the BAS could better fulfill its purposes for you, the executive committee requests that you fill out this questionnaire and mail it back (P. O. Box 7, Boston 02215) or bring it to the April meeting. We realize that some members find such questionnaires offensive or inconvenient, but a written questionnaire seems desirable for three reasons:

(1) If we raise these inquiries only at a meeting, the members who miss that meeting would be left out of the discussion. It is important that the BAS try to be responsive to the criticisms and desires of all of its members.

(2) Through the anonymity of the questionnaire you can freely criticize those programs or publications which have bored you, without fear of embarrassment or offense.

(3) With the written format you have more time to reflect on what the Society has done so far, and to suggest directions the BAS should take, than you would have on the spur of the moment at a meeting.

Page 2 of the questionnaire tells us what we have done well or badly. This page explores possible future BAS activities and services which you may like.

1. Would you object to having your name, address, and phone number included in a circulated list of BAS members to make it easier for members to contact each other ? _____

2. Would you object to being included in a mailing list to receive equipment ads, hi- fi magazine subscription offers, etc. ? _____

3. Would you like to get together outside of BAS meetings with members sharing an interest in one or more of the following areas? (Check those in which you would be actively participating in.)

_____	Listening to opera	78 rpm records
_____	" " symphonic music	Tape dubbing/ swapping
_____	" " chamber music	Live recording
_____	" " baroque music	Equipment test clinics
_____	" " modern music	Evaluating new cartridges
_____	" " electronic music	" " tuners
_____	" " folk music	" " recorders
_____	" " jazz	" " amplifiers
_____	" " rock	" " speakers
_____	Kit construction & repair	" " accessories
_____	(Other _____)	

4. Do you save "The BAS Speaker"? _____

5. Do you save the BAS Publications ? _____

	Did you attend read it? (Y or N)	Interesting or useful to you? (Rate: 0 =worthless, 10=terrific)	Comments
PROGRAMS			
Mike Wargo: Dolby units.			
Al Southwick: Selecting & buying equipment.			
Andy Petite: Microphones & live recording.			
Victor Campos: Recorders; protection circuits; Quadradiscs			
René Jaeger: DBX noise reduction.			
Richard L. Kaye: Recording the BSO.			
Roy Allison: Room acoustics.			
Laurie Coté & Friends: Live concert.			
ACTIVITIES.			
Acoustic Research factory tour.			
Live recording seminar.			
Tape recorder test clinic.			
Newton Symphony playback.			
NEWSLETTER FEATURES			
Reports on previous meeting and activities.			
Recommended records lists.			
Used equipment for sale lists.			
Non-BAS news (BSO marathon, Campos program schedule, etc.)			
PUBLICATIONS			
Al Foster: Amplifier test clinic results.			
Peter Mitchell: Evaluating/ rating record sound.			
Al Foster: Test report on tapes.			
Dennis Boyer: Introduction to opera.			
Dick Goldwater: Audiophilia.			
Jim & Joyce Brinton: Record cleaning.			
Peter Mitchell: Adding a Null switch.			

YOUR SUGGESTIONS for programs, services, activities, publications: