

THE B.A.S.

The Boston Audio Society
P.O. Box 7
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SPEAKER

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December Meeting

The December meeting of the BAS will be held at 5:30 p.m. on Sunday, December 17, in the River Terrace Room on the second floor of BU's George Sherman Union at 775 Commonwealth Avenue. The River Terrace Room is at the far right-hand corner of the main student lounge as you enter the lounge from the elevator or via the main entrance.

The December meeting will feature Rene Jaeger and David Blackmer of DBX, with wide-range four-channel recordings of rock, jazz, and classical music recorded and played back through the DBX professional noise reduction system. Come prepared to be impressed.

Letters to RCA

Don't forget to send your letters commenting on the Quadradsics to: Mr. Bruce Marlowe, RCA Records, 1133 Sixth Avenue, New York, N.Y. 10022. If you can afford 18¢ for a stamp and Xerox copy, send a copy to Mr. Peter Munvies at the same address. As a courtesy let's also send copies to Victor Campos at KLH, 30 Cross Street, Cambridge, Mass. 02139.

Since the purpose of these letters is to strengthen RCA's motivation to make wide-range natural-sounding recordings, try to write specific, constructive praise and/or criticism, rather than just "It's great," or "I don't like the tonal balance." You could use the article on record evaluation distributed with last month's newsletter as a guide to some of the points worth writing about. Sample questions to ask your ears: Is the bass boomy or thin? The treble dull or shrill? Is the string tone lifelike? Are the dynamics unnaturally compressed? Is the distortion low? Did you encounter any mistracking due to overmodulation or severe warpage? In view of the lower-than-average modulation level, was noise obtrusive? Was the stereo image natural. Was the two-channel sound compromised by the four-channel technology? Given the sonic difference between the first two Quadradsics, which is better? How do the Quadradsics compare with Columbia SQ discs in terms of all of these questions?

REPORTS AND REVIEWS

Meeting. The November meeting was held Nov. 19 with about 60 members attending. Al Foster took orders for a record on the Sheffield label which was recorded directly onto the master disc (rather than via a tape) and so has a wider dynamic range than conventional records. Also Al Southwick took orders for the National LM381A integrated circuit which can be used for a very high quality phono or mike preamp.

Victor Campos, Mgr. of Acoustics Engineering at KLH, spoke informally on several topics. He pointed out that the high-fidelity industry is a better and more honest one than many consumer industries (cars, TV's, and home appliances, for example) which typically provide no meaningful performance specifications and dubious guarantees. On microphones he pointed out that condenser mikes, even the moderately priced electrets, are superior to dynamic mikes in certain respects such as transient response, and he mentioned the Sony C-37 as particularly fine.

He described the proper procedure used by manufacturers and shops to "set up" a tape recorder. It involves the following steps. Adjust the playback head alignment to make it perpendicular to the tape travel. With the Ampex standard test tape, adjust playback equalization for flat response, and adjust the playback preamp calibration so that the standard reference level (186 nW/m) reads precisely 0 VU on the recorder's meter. Adjust the recording preamp calibration so that the 0 VU level in recording is the same as in playback. Adjust the recording head azimuth to achieve maximum high-frequency playback level, thus assuring that the head gaps are precisely parallel: Since the natural characteristic curve of tape (recorded magnetism versus input signal strength) has a kink in it, an ultrasonic "bias" tone is added to occupy the kink and leave a linear (low-distortion) characteristic for the audio signal; so optimally set the bias for minimum distortion for the particular kind of tape that will be used on the machine. Finally adjust the recording equalization circuits to achieve flat record/play response. (If the tape deck has Dolby or multiple bias and equalization options, the set-up procedure may be doubled. All of this involves enough time and effort that some manufacturers don't bother, so you have to have your dealer do it right when you buy the machine. Only a few manufacturers set up their machines really carefully before shipping.)

Victor Campos commented on his design approach at KLH, described the difference between continuous and IHF power ratings, and discussed the three kinds of protective devices commonly used in solid-state amplifiers. These are (1) sensing circuits which alter the operation of the driver stage to prevent the output stage current from exceeding a design limit; (2) sensing circuits which shut off the amplifier's power supply when the output stage current exceeds a design limit; and (3) fuses or circuit breakers which disconnect the loudspeaker from the amp when fed excessive current. When the amplifier is feeding power to a reactive load (which every speaker is), the sensing circuits cannot distinguish truly dangerous excess current from back-emf current due to the speaker's inductance; so the circuits, especially #1, can cause a kind of distortion that does not show up in lab tests with

resistors as loads. This problem will be particularly severe with speakers having high inductance (for example the AR LST, AR 3a, KLH 12, KLH 5, large Advent). The AR and KLH amplifiers and receivers avoid this problem by using only fuses and circuit breakers. When buying a unit that has protection circuits, check for this problem by playing loudly a passage for cello and listen for a frying or crackling overtone to the cello sound.

In closing, he discussed the history of classical recording practices (noting that stereo, which was intended to provide a good sense of hall space compared to mono, has at many recording sessions degenerated to multiple channels of close-up mono with the only ambience faked through an echo chamber). He also described how RCA's new 4-channel discrete Quadradiscs work, and pointed out the compromises inherent in matrixed records. To climax his discussion, he presented a gift of 3 new RCA records (two of them the first two Quadradiscs) to each attending member. Mr. Campos requested that we each evaluate the records for overall naturalness (including the 2-channel compatibility of the Quadradiscs) and write to RCA with comments pro and con.

Clinic. The BAS Tape Recorder Clinic was held on Dec. 3, and it was a far more informative one than those staged by Tandberg. It included the following measurements: magnetization of the heads and capstan; head height; channel phasing versus frequency; speed accuracy and the variation in speed due to AC line voltage changes; wow and flutter; record/play frequency response (at a level of -20 VU for open reel machines and -30 VU for cassettes in order to avoid tape saturation); clipping level at 400 Hz (the amount of headroom available above 0 VU for peaks); and the signal-to-noise ratio. Twelve decks were measured, and the results are summarized on the following page. In every recorder tested the channels were in phase at low and middle frequencies but at high frequencies (such as 5 kHz) many went partially or wholly out of phase. This is irrelevant in 2-channel stereo, but if a recorder is used to tape matrixed 4-channel recordings (SQ, QS, E-V, Dynaquad, etc.), rear-channel directionality will become confused by channel phasing errors.

In the table the column labeled "dynamic range" is the range between the measured noise and the maximum undistorted signal. D signifies Dolby; H signifies that the measured noise was mainly hum, in which case the ear's variation of sensitivity with frequency will make the effective S/N typically several db better than the listed value. The "uniformity" rating refers to the flatness of response within the quoted ± 3 db frequency range. Ideally a tape recorder should be flat to ± 1 db over most of its range, with peaks or roll-offs occurring only at the ends of the audible range.

Not a single recorder passed all of the tests unscathed; true to last month's prediction, we all left the clinic freshly aware of the faults in our equipment. Special thanks are due to the laborers in the gaussyard: Mark Davis (who brought and operated a complete test lab), J. K. Pollard, Al Foster, Jim and Joyce Brinton, Laurie Coté, Peter Mitchell.

B. A. S. TAPE RECORDER CLINIC RESULTS

Unit	Speed, ips. C = cassette	Tape type	Dynamic range, db (unweighted)	Phasing at high freq.	Speed accuracy, %	Speed var. vs. AC line voltage	Wow & flutter	Freq. range ±3 db	Uniformity of freq. resp.	Notes
1. KLH 40	3 3/4	L.N.	58 D,H	G	3.8 F	VG	E	60-17k	F	
2. KLH 41	7 1/2	L.N.	62 D,H	P	2.1 F	VG	E	20-23k	G	
3. Revox A77	3 3/4	L.N.	51 H*	E	0.3 F	E	E	≤ 20-15k	E	*Severe hum.
4. KLH 41	7 1/2	Std.	63 D,H	P	1.8 F	G	E	25-18k	G	
5. Sony 352	7 1/2	L.N.	57 H	P	1.2 F	VG	E	28-20k*	VG	*35-10k at 3 3/4 ips.
6. Advent 201	C	CrO ₂	58 D	G	1.2 S	VG	G	35-14k*	G	*w/o Dolby. Treble rolled off w/Dolby.
7. Teac 6010	7 1/2	L.N.	57	E	0.7 F	E	E	40-19k*	G	*L ch. only. R ch rolled off (worn?).
8. Sony 160	C	CrO ₂	48 H	E	0.2 S	G	G	28-15k	G	
9. Sony 125	C	Std.	46*	**	1.8 F	F	G	40-12k	F	*Approx. due to AVC **L. ch. dead.
10. Sony 630	7 1/2	Std.	54	P*	0.7 S	E	E	50-21k	F	*Rec. head badly misaligned.
11. Sony 780	7 1/2	L.N.	64	E	0.3 F	E	E	* 18-14k	G	*Fwd. heads. Rev. heads good to 20 kHz.
12. Sony 160	C	CrO ₂	49	E	0.8 F	VG	P	30- 10k	F	

Recommended records. Following is the last planned collection of brief lists of records notable for outstanding performance or sound, as recommended by members. We expect to follow up with in-depth discographies and articles on the recordings of various categories of music, written by BAS members who have large record libraries. We also recommend two booklets as useful guides for people who want to build good classical music collections. One is William Schwann's "Basic Record Library, " which doesn't discuss specific performances but rather is a chronologically organized list of about 1000 basic compositions (with 150 labeled as really basic). So, for example, if you want to get to know Bach, this booklet will you which of Bach's 200 or so recorded works are most important or most likely to be worth exploring. To get the Schwann Basic Library, send fifteen cents and a self-addressed stamped envelope at least 9 inches long to W. Schwann, 137 Newbury St., Boston, Mass. 02116. The other booklet is Martin Bookspan's "The Basic Repertoire," which names the "best" recorded performance of each of about 150 popular works, mostly symphonies and concertos. Though its recommendations are highly personal and tend to stress performance character over recorded sound, it is a valuable guide as long as you don't follow it too slavishly. To get it, send 25 cents to Susan Larabee, Stereo Review, 1 Park Avenue, New York, N. Y. 10016.

While we are on this subject, we do NOT recommend Herbert Russcol's "Guide to Low-Priced Classical Records," a large \$3 paperback sold in many stores. It contains dozens of errors and falsehoods, exhibits carelessness in judgment, and is seriously out of date (indeed it was obsolete the day it was published).

Stuart Isveck (Clear bright sound on each.)

Purcell: Ode for St. Cecelia's Day. Deller, Tippett. Vanguard Ev. 286.

Shostakovitch: Sym. #6/Prokofiev: Scythian Suite. Bernstein, NY Phil. Col. 7221.

Mozart: Clarinet Con./R. Strauss: Horn Con. Szell, Cleveland. Epic 1241

(deleted).

Strauss: Also Sprach Zarathustra. Reiner, Chicago Sym. RCA LSC 2609.

Newton Wayland et al: "Jazz Loves Bach". Aelica #4001 (Mfg. by Petrucci & Atwell, 331 Newbury St., Boston. Recorded at N.E. Conservatory).

Laurie Côté

Tchaikovsky: Trio in a, Op. 50. Beaux Arts Trio. Philips 6500 132.

Dvorak: Piano Trios (complete). Beaux Arts Trio. 3-Philips 6703 015.

Ravel: Left-hand Con./Prokofiev: Piano Con. #3. Browning, Leinsdorf. Cap. 8545.

Brahms: Piano Con. #1. Rubenstein, Reiner, Chicago Sym. RCA LM 1831. (Both the Cap. 8545 and RCA 1831 are deleted; only fair sound, but great performances.)

Shostakovitch: String Quartets # 1-11. Borodin Qt. 6 Melodiya-Seraphim 6034/6035.

Richard Goldwater

Beethoven; Sym. 1-9 (esp. #6). Jochum, Concertgebouw Orch. 9-Phil. C71AX900.
Mahler: Sym. # 1-10 (esp. # 1). Kubelik, Bavarian Radio Orch. 14 -
DGG 2720 033.
"Montserrat Caballé Sings French Opera Arias". DGG 2530 073.
Schubert: Quartet "Death and the Maiden". Juilliard Qt. RCA LSC 2378.
Harnick & Bock: "Fiorello!" Broadway cast. Capitol SWAO 1321.
Beatles: "Sgt. Pepper's Lonely Hearts Club Band. " EMI Parlophone (imported).

Dennis Boyer

Mahler: Das Lied von der Erde. King, Fischer-Dieskau, Bernstein. Lon. OS 26005.
Britten: War Requiem. Britten, London Symphony & Chorus. 2-Lon.OSA 1255.
Schubert: Die schöne Müllerin. Wunderlich. 2-DGG 2707 031.
Brahms: Symphony #2. Kertesz, Vienna Phil. Lon. 6435.
Monteverdi: L'Orfeo. Harnoncourt, Concentus Musicus. 3-Telefunken SKH 21.
Mozart: The Magic Flute. Böhm, Berlin Phil. 3-DGG 2709 017.

Peter Mitchell (Fine sound and great performances all.)

Schubert: "Trout" Quintet. P. Serkin, Schneider, et al. Vanguard 71145.
Mahler: Sym. # 9. Kubelik, Bavarian Radio Orch., 2-DGG 2707 038.
Bach: Cantatas # 1 - ? . Concentus Musicus et al, Harnoncourt/Leonhardt. Tel.
SKW 1
Schubert: Sym. #8/Beethoven: Overtures. Karajan, Berlin Phil. DGG 139001.
Mozart: Sym. #40. Britten, English Chamber Orch. London 6598.
Dvorak: Quintet Op. 81 (piano). P. Serkin, Schneider, et al. Vanguard Ev. 288.