

On Sunday, September 22, 2013, the monthly meeting of the Audio-Video Club of Atlanta was held at the new Virtual Properties meeting room in Duluth. This meeting had two distinct parts, and a session before the actual meeting. At the actual meeting the new club subwoofers and how they were built was shown off to the attendees. The meeting then had two segments on jazz history by Don Smith, and classical music by Dr. Tommy Joe Anderson. With a good crowd on hand, it was an afternoon of really great music! This secretary was unable to attend, so these notes are from Steve Gooding (my thanks for filling in!), so the format of these minutes will be slightly different than normal.

Before the actual meeting began at 2 pm, there was a session for those who were interested in how to incorporate subwoofers with two-way speaker systems. This started around 12:30 pm and was used to tweak the integration of the new subwoofers with the club's existing two-way speakers. Some of the information that was provided can also be applicable in setting up surround sound systems.

At 2 pm, the meeting started with John Morrison up first with a few club announcements. Dennis and Jennifer are retiring from refreshment duty at the end of this year, so the club is looking for volunteers to be replacements. They will be a hard act to follow! The club also needs help for the program committee, and John or Chuck can provide contact information. We need help from folks to reach out to potential presenters and work out the details of their appearance. John reminded members of the two surveys currently on the web site, and to look on the web site for upcoming meeting information.

Part 1 - Subwoofer Discussion and Demonstration:

Q. Why was a sealed box design chosen?

A. The main reason was box size, with a ported box needing to be twice as large as the one we built. The subwoofer project committee research indicated that the sealed cabinet would have the best transient response. The main trade-off is efficiency which was overcome by purchasing powerful amplifiers of approximately 500 watts per channel.

Q. Why was a front-firing layout chosen?

A. Downward firing woofers tend to have their output decreased when firing into soft carpeting. Another consideration is time alignment with the main speakers which is easier to obtain if they all fire in the same direction.

Q. It was noticed in the construction pictures that there is an internal divider with a number of holes in it. Is it some form of tuning of the enclosure?

A. No, the divider serves only as a brace for the cabinet to prevent unwanted vibration; the holes are large enough to prevent any influence on the box tuning.

Q. Were passive radiators considered to reduce the size of enclosure?

A. Passive radiators are just another form of port and they typically weigh 4 or 5 times the driven driver. Like a ported design, the passive radiators can affect transient response and require a larger box size.

There was some discussion about the definition of a subwoofer. A subwoofer should approach 20 Hz at the low end, and many sub-sat systems really need a subwoofer since their low frequency driver is only good down to 40-50 Hz. It was agreed that positioning of the subwoofer(s) is critical. It takes much experimentation to get it right. There were comments on instruments having very low frequency capabilities, such as bass guitar, standup bass, pipe organs, tubas, etc.

Club members were impressed with the sound of the club subwoofers, bass extension was very good, transient response very crisp, and excellent integration with the club speakers. During the listening tests the left subwoofer exhibited excessive excursion and bottoming of the voice coil against the pole piece. The problem was traced to excessive boost at 18 Hz. This was reduced and the problem did not reoccur. There was little effect on the sound.

Comparisons were made with the subs on and off and the consensus was that the sound character was more open, with no congestion in the midrange. The other difference was the low frequency extension.

Like other club equipment, the subwoofers can be borrowed for home testing. Sam will be willing to help integrate them with your system.

Part 2a - Don Smith: History of the Jazz Bassist

His theme was that bass instruments are the foundation of Jazz.

The earliest jazz did not usually have a standup bass. The trombone, drums, etc. provided the foundation until the 1920's.

1920's - 1930's the upright bass became popular, and the artist typically plucked one string at a time.

1950's the bass player began to play more of the melody usually accompanying the piano. Bassists were now carrying the tune.

1960's saw artists such as Bill Evans demonstrating new jazz bass techniques.

1970's Jaco Pastorius and Stanly Clarke broke new ground using the electric bass guitar in jazz.

Don Smith then played an extensive list of cuts from historical recordings highlighting jazz bass player's techniques, which provided a good workout for the subs in the more modern selections.

Part 2b – Tommy Joe Anderson

Tommy Joe Anderson brought a list of recordings he uses for evaluating loudspeakers. He played many of them on the club speakers and subwoofers. The recordings ranged from complex orchestral recordings containing many instruments played simultaneously to recordings emphasizing voices and simple arrangements. Tommy Joe mentioned several times that the club system sounded very, very good on all the tracks.

A highlight of the demonstration was a recording of the bass drum from Stravinsky's Firebird from a 1978 Telarc recording in ASO's old orchestra shell and a recording Tommy Joe made a few days previous to our meeting of the same passage in the ASO's new orchestra shell. Most agreed that the sound of the new recording demonstrated better low end response for the hall.

The meeting concluded at 5 pm.

Members appeared to be pleased that we had built the subs and were going to be using the system for more member presentations such as these. The club will scan in and publish the documentation provided by Don and Tommy Joe onto the club's website. We had originally planned for a classical presentation by Dr. Phil Muse but unfortunately Dr. Phil has been under the weather, so our thanks to Tommy Joe who filled in at the last minute for Dr. Phil. The club also gives many thanks to Don Smith and the club members involved in the building of the subwoofers (especially Sam and Dennis), and of course Jennifer and Dennis for the refreshments (as always).

Thomas Horner
Secretary, A-V Club of Atlanta