

out of my head | Map needed in Woofer-Tweeter Land

By Ryan Scott

Buying stereo equipment can be a real headache. In three years of selling hi-fidelity components, I found that an involved sales pitch could give me a headache:

To begin with, the hi-fidelity market is confusing. What is modern one year is an antique the next. Often I remember dealing with customers completely satisfied with their old systems, who walked out of the store with a new purchase they thought was a "step up" from what they were using.

I was caught in a never-ending cycle of trading up for bigger and better components. For a while, I was buying equipment as often as I was having my laundry done; but I wasn't going broke with my laundry.

Personal taste and preference is the most important thing to remember when buying stereo equipment. Buy what your ears deem best in sound reproduction.

In this article and other articles to come, I hope to impart a basic knowledge of how to shop for stereo equipment, based on my experience in the field. I shall deal with the most popularly purchased stereo item, the speaker, first.

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The speaker is regarded by many as the most critical component in assembling modern stereo component systems. Your stereo is only as good as the sound emitted from your speakers. Who cares if you've spent over \$1,000 on a new Superfab Hypo-gizmoed Model 101 state-of-the-art amplifier. If that amplifier is teamed with a set of poor speakers, the result is poor sound.

I have found the average person does not quite know how to evaluate a speaker's performance. The following outline is provided then for the average novice hi-fi enthusiast.

First, be prepared to take time evaluating speakers. Evaluations take a good hour and can last up to three. It depends on how seriously you want to listen.

When you approach the stereo salesman, speak up and tell him what you want. Give him an idea of the price range you can afford to work within. Good speakers today start in the \$75 to \$125 price range. Naturally, you will need two speakers, so be prepared to pay at least \$150 when you enter a hi-fi salon. There are many excellent speakers in this price range, but there also are many "dogs" (a bad piece of equipment is slanged a "dog" in hi-fi). The best advice I can offer is *learn to evaluate*.

Take with you to the stereo store a record that you particularly like or are familiar with. Evaluating a speaker with music with which you are familiar helps immensely in your ability to discern a good or bad speaker. The speaker on which you find your music sounding its best probably is the speaker for you.

One easily can be fooled as to what is a good-sounding speaker. The best way to not be fooled is to make sure that when comparing speakers, each speaker is played at the same volume level. The ear has the ability to perceive minute sound variations, particularly in the critical mid-range area of musical sound.

A variation as small as two decibels (a decibel is a unit measure of sound, commonly abbreviated dB) easily can be perceived by the ear.

In speaker evaluating, the louder speaker will always sound better.

Many speaker manufacturers take advantage of this psycho-acoustic phenomenon by deliberately building a frequency "bump" (a rise of 2 dB or more in the frequency output of the speaker) into the critical midrange area. No matter what volume control setting the "bump" speaker is set at, it always will sound better than the contrasted speaker, through inaccurately so. (The basic strived-for goal in sound reproduction is a flat output response).

Luckily, a switching system has been developed to equalize the midrange area of speakers that are connected to it. It would be wise to ask your dealer if he has such a switching system in use. If not, go ahead and jockey with the volume control on the amplifier. This helps, but not much.

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Now that you are listening to music that you are familiar with on speakers that are both in your price range and played at equal volume with all other speakers being evaluated, you are ready to evaluate performance parameters.

Bass response ambiguous

Most people immediately are aware of bass response. Bass gives a certain vital solidarity to music and this is why most people notice it first. The speaker that bass is derived from is called a woofer. It usually is the largest of the speakers in the speaker cabinet. Bass response can be very ambiguous. Manufacturers can build bogus bass response called "boom" into a speaker as easily as they can build midrange "bumps" (a boomy bass is exactly like a bumpy midrange, only the boost is placed in the bass response).

A good rule of thumb is that good bass is clean and solid and can be felt as well as heard. One usually does not feel bass until the lower registers of bass frequency are reached. If you perceive a gut rumbling feeling in your stomach, the speaker in question probably has excellent bass response.

There are two basic ways that bass can be derived from a speaker. One approach is bass reflex, a system that utilizes a hole, called a "port cut" on to the mounting board. The port vents the waves radiated by the back of the woofer into the listening environment. This vented sound is perceived as low end bass response. Bass reflex is found in many of the less expensive speaker designs.

Acoustic suspension, the second approach, is a system that uses an air-tight enclosure. It usually (always in the \$75 to \$125 price range) provides a more accurate bass response.

'High frequency is reproduced by a driver called a tweeter.'

High frequency is reproduced by a driver called a tweeter. Often more than one tweeter is used in a speaker cabinet to provide for better high frequency dispersion and a more accurate tonal balance.

Listen to electronic music and cymbals to evaluate high end response. An easy test for evaluating tweeter response is to listen to the "sheen" of a cymbal. When a cymbal is struck it has a shimmering sound that slowly fades. This fading, called roll-off, will be effortlessly reproduced by a good tweeter.

Look for natural sounds

Many adjectives are used in describing high frequency. Highs can be clean, sharp, smooth, transparent, silky and a host of other words. Look for the high end that sounds natural to your ears (many salesmen will refer to a natural sound as transparent).

Finally, there are a few more things to be said. When a salesman compares two speakers for you, listen and then ask him why he thinks one speaker sounds better than another. His trained ear can help train yours.

Balance is an important quality in a speaker. One portion of the frequency spectrum should not overpower another. The bass midrange and treble should all blend beautifully and effortlessly together. No one frequency range should dominate. Sound should reach the ear as a

continuum of frequencies in which the ear, not the speaker, discerns between high, low and mid frequencies. The speaker that is heavy in one area of frequency certainly will become tiring to listen to, a problem called listening fatigue. Evaluate your speakers closely for balance. One should be relaxed, not fatigued, by the music.

Which is the best speaker is an impossible question to answer. The best speaker is the one that personally suits your taste. A good speaker is an effortless reproducer of sound. It should be as perfect at projecting sound images as a window is at conveying visual images. The best speaker is the one that sounds like it is not even there.

It is impossible to convey all the knowledge needed in purchasing speakers in the space of one article. I hope this has served as a good basic outline. I hope to be able to pass on more of my acquired knowledge on stereo equipment in future stories. As for now, remember, when it comes time to shell out your hard-earned bucks for stereo equipment, it pays to evaluate.

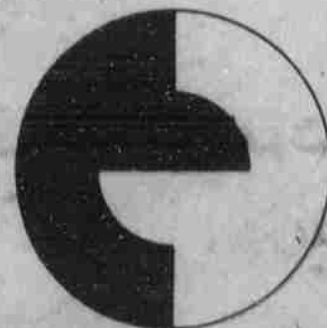
arts & entertainment

Auditions posted for Howell play

The Nebraska Repertory Theatre has announced auditions dates for actors and technicians at its ninth annual summer of plays at UNL Howell Theatre.

Pat Overton, theatre secretary, said all auditions are by appointment only. Application forms may be obtained by writing the Nebraska Repertory Theatre, Temple Bldg. 108.

Auditions at UNL are scheduled for April 3 and 4 from 10 a.m. to 6 p.m. with matching times at Nebraska Western College, in Scottsbluff on March 18 and 19 and at Kearney State College on March 20 and 21.



Actors and technicians will be paid \$75 weekly. Stage manager, set designers and costume designers will be paid based on theatre experience.

The directors and plays for the 1976 season are: *Home Front*, an original musical written and directed by David Bell and Alan Nielsen; *Loot* written by Joe Orton and directed by William Morgan and William Shakespeare's *A Midsummer Night's Dream*, directed by Bill Kirk. *Born Yesterday* was written by Garson Kanin and the Repertory Theatre currently is looking for a guest director.

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