

THE THEATRE ORGAN IN STEREO

PART III EVALUATING SPEAKERS

by Ron Musselman

The handful of loudspeakers surveyed in the first article of this series was comprised of uniformly-superb models, all of which are up to the task of providing natural, lifelike reproduction of music in the home . . . whether the material is pipe organ, dulcimer or the human voice. Listening tests conducted by the writer have confirmed this, and those findings are supported by comprehensive tests published in several authoritative periodicals. But as we noted, many may want to listen to other makes and models. And now that amplifiers and receivers have been covered, you might find it handy to use a promising receiver in listening to any loudspeakers you are interested in.

Of course, it goes without saying that department stores and their "appliance" grade stereos should be avoided in the search for really good audio components. Instead, focus primarily on either major stereo chain outlets or the audio "salons" that specialize in high-grade products and offer a great deal of personal attention. The latter of the two usually employs the most knowledgeable people. And watch for clues that can help you determine the caliber of the guy who just said: "Hi . . . Can I help you?" It's especially important for the salesperson to know the product well when the cus-

tommer is considering laying out several hundred dollars for something like: "Yeah, these speakers have a real punchy bass and a fantastic presence on vocals," he's likely to be qualified to do little more than write up sales slips. On the other hand, if he talks more in terms of "natural, unexaggerated response" and "no major peaks or dips," then you're probably in good hands.

The room that the speaker is being auditioned in has much to do with the way it sounds. For evaluating the low frequency response of the woofer, the showroom should be fairly large (small rooms will not support the longer wavelengths of low bass fundamentals). The pair being listened to should be speaking into a room at least 20 feet in length, with the listener at the far end from the speakers. There should be only a moderate amount of window area, and it's desirable that the ceiling be solid rather than suspended. Too many large windows and a suspended ceiling tend to flex and act as a "passive radiator" out of phase with the woofers, partially canceling them out at lower frequencies where the real pedal power lies. The room should not contain a sea of loudspeakers covering two or three of its walls. With too many systems in one room (especially ones having large, low-resonance woofers), the pair

that is playing can have its sound colored by all the others as their cones are caused to vibrate through a loose acoustic coupling. Also, the listening room should be separate from the main floor area to keep extraneous noise from interfering.

One important thing to look for at the dealer is a switching panel; one that allows instant switching from speaker to speaker and between receivers to compare cleanness at higher levels (which can vary even if two units have identical power ratings). During a sustained note, you may be able to switch back and forth two or three times to compare the clarity exhibited by two competing speakers. A word of caution though: in a showdown between two models of different efficiencies, make sure the volume control is adjusted accordingly to compensate. The louder of the two can give the impression of presenting more detail, even if it's a little on the gritty side. Experienced ears have been fooled.

Before walking through the front door of a sound emporium to listen to that army of walnut boxes, there are a couple of things you can do to help in separating the wheat from the chaff. During the weeks before you start listening to imitators, take in the real thing. Go to as many organ concerts as you can and pay close attention to the sound of solo stops and familiar combinations as well as the ensemble. Go to the coffeehouse and listen to that unamplified singer and her acoustic guitar. Listen to some live jazz and make a mental recording of the cymbals and the bass and snare drums. How does the clarinet or sax sound in the room? Listen to people around you in church on Sunday morning as the congregation stands and sings a hymn. Note the texture of all those voices singing together. Even in conversations with people you see day-to-day, listen to the timbre of both male and female voices. How does resonance balance against harmonics and breath noise? Notice the degree of sibilance in words like "possibilities." How much nasality is present in most voices?

Attend a symphonic performance. How do the massed strings sound? How much bite do you hear on the live brass? Expose yourself to as many live references as possible. And then when you go to market, take an important tool along: a

number of records you are familiar with . . . good, clean pressings that cover a wide variety of music. Ideally, well recorded samples similar to all the examples mentioned above should be included. The single most useful yardstick is the human voice. More than once, I've started out with a good theatre organ recording and the speakers under scrutiny sounded pretty good. Then the male voice on the test record followed and the slight "tubbiness" and mid-range steeliness imposed on it dropped the grade from a "B" to a "C-minus."

I've come across a few records the past few years that have been helpful in determining the naturalness (or lack of it) and range of unfamiliar loudspeakers. George Wright's two albums on the Chicago Theatre Wurlitzer are exceptionally clean. The company that issued them (Century Records) is reportedly defunct, but you may still be able to find one or both of them if they aren't in your collection already.

In Vol. I, among the things to use as gauges are the Glockenspiel accents found in various places. They appear to be hanging in space just in front of the speaker and have the crystal-clear ring of the real item. If they assault your ears with a slightly metallic "clink" on the attack or seem to be buried back in the chamber, cross off that speaker. In the "Mickey Mouse March," listen to the percussions in the intro. The auto horn in that cut is distant in perspective, but all of its peculiar raspy growl is on the recording. Note both Xylophones in "Bojangles of Harlem," several of the combinations and a brief appearance of strings in "Down in the Depths," and the detail of the bass-baritone reeds in "Black Moonlight." In addition to these specific items is the overall sense of "you are there" space captured in this record. It isn't necessary to attempt a description of that essence here; when you encounter a properly designed loudspeaker, the experience will be self-explanatory. (The Cizek I is one of the speakers exhibiting this property.)

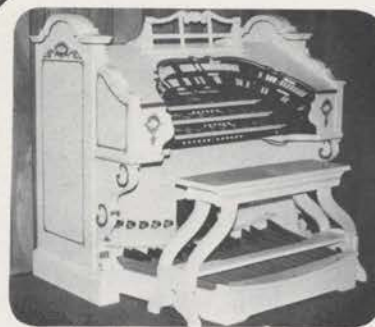
In Vol. II, the 32' Diaphones at the opening of "The Music Goes Round and Round" will reveal how much "bottom" the speaker has and tell if the spec sheets are lying. There are a few other recordings of 32's around,

but in this specimen, every pulse and sensation of wall movement(!) is distinct. If played through one of the "minispeakers" so popular these days, you'll hear only a muddy throb. A number of mid-size speakers with bass response down to 50 or 60 c.p.s. will give out a sound similar to a plucked string bass (in terms of resonance), but with a somewhat "wooden" quality, and the "throb" will still be significant. With speakers whose response extends to 35-45 c.p.s., the realism is improved somewhat. There may be a taste of those really low fundamentals, but the ear can synthesize them from hearing the 2nd harmonic (32-60 c.p.s.) produced by the speaker. If response is fairly strong down to 30 c.p.s., the top half of the 32' octave will be relatively strong but the bottom will be weak. Only loudspeakers with essentially undiminished response to below 30 c.p.s. can do justice to the 4 or 5 largest pipes in that set.

Other things in Vol. II of use as listening references are the cymbals in "Truckin'." They sound well into the background compared with everything else, but most of the harmonics are there and they should not sound at all muffled. In the same cut, pay attention to the way the lighter reeds sound. They have a lot of subtle detail that many speakers will gloss over. The same holds true for the wide dynamic contrasts heard in "Body and Soul," which has one of those big endings with enough push to examine crescendo handling capability. Also, try the tremmed strings in "I'm in the Mood for Love" and the strings near the end of "I'll Never Smile Again." Of course, both albums will be of even more use if you've heard the instrument live.

One other theatre organ recording I've found to be a reliable standard is Tom Hazleton's *From the Avenue, San Francisco*. The organ is a mid-size Wurlitzer installed directly behind the screen in a smallish neighborhood movie house. The sound of the record is quite direct and appears to have been picked up from not more than a few rows back.

"It's D'Lovely" is extremely brassy but cleanly recorded. Any speaker with a midrange peak (found in many "rock monitors") will flunk flat if this is played through it: It will impart an unpleasant edginess to the



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sound. In "Dancing in the Dark," listen to the Clarinet/Tibia combination following the intro . . . you can hear a lot of the Clarinet's transient tonal characteristics at times. "Siboney," another selection with a lot of aggressive brass, features an extended Posthorn passage about half-way through. Starting up fairly high and working down to the 8' octave, it's a good study of this stop in close-up perspective. And, in "The Way You Look Tonight," there is a beautifully recorded Tuba solo.

I believe the three non-organ albums I use the most are out of print, but they can still be found in the "easy listening" bins of larger record stores. Chet Atkins' *The Night Atlanta Burned* (RCA APL1-1233) is a good source of violin, cello, mandolin, and some of the best-recorded acoustic guitar I've ever heard. Henry Mancini's music from the film score of *Oklahoma Crude* (RCA APL1-0271) features good examples of strings and clean, well-miked brass, along with several solos. A good "sampler" album is Hugo Montenegro's *People One to One* (RCA LSP-4537). It has a nicely-recorded trombone solo and some excellent light cymbal work. In one cut, there is some very natural-sounding acoustic guitar and a synthesizer that starts out in both speakers and seems to work out into

the middle of the room. In "I am, I Said," look for clean definition of all individual elements in the middle of that arrangement; brass, strings, voices, drums, cymbals and rhythm guitar. If these three records can't be found, seek out others with similar instrumentation. For an example of human voice, your best bet is to find a well-engineered local FM station that doesn't equalize its mics to make the announcers' voices sound bassier.

You might supplement what you bring with the store's records they use for demonstration purposes. They may even have some of the new direct-to-disc or digital records on hand. But I wouldn't rely on any hard rock albums as a guidepost; many of them are gimmick-ridden and highly processed by hands lacking in competence, taste, or both. It's often hard to tell if the source of distortion or coloration is the loudspeakers or the recording itself.

As you begin to listen to various designs, keep in mind a couple of characteristics that all really top-notch speakers share. When reproducing material containing no heavy bass content, the speaker should give no hint that it is capable of extended low-bass reproduction. Speakers that sound bassy on almost any material generally have a mid-bass peak or emphasis that will get very

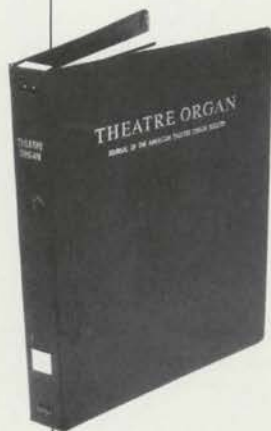
tiresome after a short while. If the peak centers about an octave below middle "C," there will be a boomy quality to the bass. If it appears down about another octave, the "boom" will be absent, but the speaker will have a decidedly bass-heavy or "tubby" personality. And even if a loudspeaker's high-end response extends to well beyond the range of human hearing, you should not be aware of this unless it is being fed program material that has significant high-frequency information in it, such as brushed cymbals or strings. A gritty or "hissy" quality is neither desirable or natural.

Be sure to inquire as to the grade of cartridge and turntable being used in demonstrations. Better gear at that end will eliminate two more potential weak spots. Most legitimate stereo outlets use good turntable/cartridge combos even in their "moderate" price rooms.

Even if you're reasonably sure you've found a winner, you may want to take the speakers home with you on the trial basis some stores offer. And remember, if the purchase of this most influential and tricky component is approached slowly and carefully, you'll ultimately wind up with a pair of speakers you'll be satisfied with . . . permanently.

NEXT: Turntables and Cartridges. □

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