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Guru QM10 Loudspeaker

How Great Speakers Work

By Mike Quinn

Speakers are boxes or panels, among other things, designed to transmit music to our ears. They are never amusing or funny, always serious and straight to the point, or should be—effectively neutral, like a good news story. Via whatever technology they employ, they somehow convert an electrical signal—which contains the information previously converted from physical music in the studio to an electronic analog; even digitally recorded music has to be converted back to analog for the speakers—into (hopefully) pleasing music.

Getting sound out of some sort of transducer is simple—anyone can get their hands on a speaker driver of some sort, hook it up to an amplifier and some kind of music or noise will result. The trick is drawing out sound that is faithful to the original information encoded in that electrical signal and then delivering it to our ears. In the case of the *JT* faithful, that means asking, does it sound like real jazz? Is Monk in the room? Does Hawk's horn sound full and meaty like it should? Does Diana sound like Diana sings onstage? Are the nuances of cymbals, reeds, concert halls, piano hammers, the Vanguard's ever-tinkling glasses, all conveyed in such a way that we might be fooled into thinking we are *there*, with those sounds as they are being produced? Ahhh, that's the magic of speaker design, and every speaker magician has his or her own tricks, some more successful than others, for achieving that illusion of aliveness, of reality, of XXX.

There are thousands of speakers to choose from today, each different from the next: some just a bit different, others dramatically so. Here are examples of each category.

More than just a jazz drummer, a master of Japanese martial arts and the man behind what many consider to be one of the best turntables

on the market, Allen Perkins also owns two of the best ears in high-performance audio. For years I've been bowled away by the sound Perkins has achieved setting up stereo demos, both in his now-defunct retail store as well as in numerous hotel rooms at audio shows around the country. But now I know Perkins has a secret: import and distribute speakers that simply sound great and are relatively easy to set up. Originally responsible for U.S. sales of the German Audio Physic lineup, Perkins now imports speakers from the former designer of Audio Physic, Joachim Gerhard, which bear the complicated moniker of Sonics by Joachim Gerhard (immediasound.com). No guessing who's behind these babies. Having heard entrancing sound from this relatively new family of speakers over the last two or three years, I finally convinced Perkins to let me review a pair in my own home. He obliged by sending in a beautiful pair of Allegrettos (\$4,500) in a stunning bird's-eye maple finish. Turns out Gerhard is a furniture designer in addition to his creds in electronics, and his speakers have always displayed both talents equally.

Gerhard adheres to the theory that simpler is better and, were it not for the absolute beauty of the construction, his speakers, at least outwardly, might seem a bit "monastic." But in audio, simplicity is usually the correct path and every Sonics speaker I've heard proves the point. They are seamlessly integrated from top to bottom, are tonally accurate to a T (or an A flat), and produce music like few other speakers can. Oh, and they produce a soundstage that is magical. When properly (and this is easier than I used to think) set up, the speakers disappear from the scene and leave only a blanket of sensuous music at the front of the room, enveloping the listener in a musical experience that is shockingly realistic. Not bad for simple. The Allegretto uses only two drivers, a seven-inch to cover mids and bass, and a specially constructed tweeter to reproduce the highs. Gerhard's art is to make these two elements combine into one, to make music in a believable manner. To say he succeeds is an understatement.

And the proof is in the listening. On the terrific Acoustic Sounds 45 rpm LP reissue of Jackie McLean's *Capuchin Swing*, all the elements come together perfectly: tonal balance is spot-on from top to bottom: plenty of detail and plenty of punchy, tight, tuneful bass. First thing I noticed

was the timbre and solidity of Walter Bishop's piano image, always hard to get right; sometimes an acoustic piano can sound like a bad electric. But in this case, the instrument was absolutely "pianistically" woody with no obfuscation of its intrinsic qualities. Percussive and musical, its tonality was perfect—pitch perfect—and even the feel of the hammer striking the strings was there. McLean's horn was full, but with plenty of clean top end where much of the magic of the alto really happens but is unfortunately lost via many audio systems. Blue Mitchell's trumpet? Yep, it's broad and soulful, piercing without screeching, and the Allegrettos even reveal the strength of the wind coming through the bell, shaping each note in a perfectly sculpted 3D manner. Thanks to this great new pressing and these astounding speakers, this 50-year-old LP sounds like it was made last week; it's that alive, that fresh.

Mood Ingenuo captures an astonishing live performance in a Genoa, Italy jazz club by Brazilian reed genius Paulo Moura and New York keyboardist Cliff Korman. Through the Allegretto, I was transported directly to the club. The feel, the air, the audience of the club were all painted in vivid colors across the front of the listening room. There was nothing bloated or flabby in the bottom, nothing bleating or scratchy in the top; the image was totally natural, with nothing added, nothing subtracted. At times I felt like I could reach out and touch Moura's alto or clarinet, help Korman with the pedals of his piano or share a drink with an audience member at the table next to me.

This mix of Ellington tunes with those of Brazil's Ellington analog, Pixinguinha, was totally satisfying musically, and all the more so through these speakers. The highlight for me was the Pixinguinha classic "1x0," which describes the fast action of a soccer game through the soaring, flying reed instrument part, in this case clarinet, an instrument rich and meaty in the midrange. The Allegrettos portray Moura's tone and nuance in a totally believable manner, from every probing dark, sensual, deep tone to the highest trill. Korman's piano was likewise present, his fingers running across the keyboard at lightning speed like a full-on assault by Rio's legendary Flamengo soccer team. This disc is highly recommended—as are the Allegrettos! A world cup winner to be sure, in their own right.

Swedish meatballs are small. Swedish Saabs are small. And the Swedish Guru QM10 (\$2,695; sjofnhifi.com) loudspeakers are small. But like the intense flavor of those scrumptious little treats, and the surprising power of those rocket-scientist-designed Saabs, the Guru speakers pack a wallop capable of knocking an unsuspecting

listener on his or her ass. One of those "where's the subwoofer" speakers, the Gurus deliver bass that must derive from a pact with the devil—it's just too good to be true.

And after an extended dinner with Guru guru Ingvar Öhman in a fiery Thai joint in Vegas earlier this year, I'm not so sure that Goethe's best friend didn't have a hand in developing these TNT-loaded mini-boxes (and don't forget that TNT was invented by another Swede, Mr. Nobel of the famous peace prize). Öhman explained his concepts by sketching them madly on what must have been an entire box of paper napkins, illustrating how a speaker must take both the listening environment and the nature of human hearing into account to be truly accurate sounding and, ultimately, musical.

"I design my speakers beginning with the ear of the listener and work backward to the speaker itself," he explained. "Most speakers are designed by engineers who start with a driver and try to figure out what to do with it." This is truly revolutionary thinking. Öhman spent more than 10 years studying the nature of human hearing and then applied that knowledge to improving speaker design, which he found extremely lacking back in the mid-'70s when he began his work with audio. "I've mapped the way reflections from the shoulders and the outer ear affect the sound we hear, how these affect our ability to detect nuances of the sound, the music. So though the sound that actually leaves the speaker may not measure well, may not be balanced, the sound which actually arrives at the eardrum is balanced and correct. Other designers ignore these effects completely," Öhman preached.

He can go on for hours about the nature of human hearing and the effects it has on our music listening. His design technique, then, is to compensate for the effects of our hearing at the very speaker/room interface; that is, within the speaker itself, as well as compensate for the effects of the listening room on the sound. In this way, what we hear is far closer to the original sound than music played through a speaker that may very well measure perfectly in an isolated test chamber, but really sound "wrong" when the music reaches the actual ear membrane.

And he doesn't just buy drivers off the shelf, as do many manufacturers. "I always design the drivers myself so I don't have to compromise," he attests. "But remember, the design process starts with the listener's ear. Then I model what I want

from the speaker and end up with odd driver designs which I have to build myself. I design the driver so that it can produce acoustic energy which is correct to the ear itself, not to a microphone in a testing facility."

He also uses the listening room to augment the performance of the speakers. By placing them against the rear wall, bass is increased. He also harnesses the room's wall reflections to produce a soundstage of immense

proportions, meaning the size of the musical image is magnified in a controlled manner via the size and shape of the enclosure itself, as long as the listener adheres to the suggested setup procedure, which means speakers right up against the rear wall and at least three feet away from side walls, with some sort of sound-absorbing material placed directly behind the boxes.

Öhman didn't start out to sell speakers. His early boxes were intended only as tools in the institute for hearing research he founded to help his understanding of this complex function. But everyone who heard them wanted a pair for music, and he was coaxed into producing pairs for those members of the growing cult surrounding Öhman's magic boxes—they truly were objects of a devoted underground in Sweden. But now they are available in

this country and, as before, everyone who hears them is astonished at their level of performance, particularly when the size of the box is taken into consideration: It's only 12 inches wide and nine in the other two dimensions.

These speakers have a rare quality that I am not sure I can quantify exactly. They have an immediacy that is hard to equal in multi-driver speakers, but that is often found in planar or single-driver systems. The highs are transparent and seem to extend nearly to the moon, with never a trace of harshness or distortion, possessing a clarity that causes a sense of jarring reality. Often while listening I felt a sonic jolt of unnerving suddenness that occurred because the mids and upper frequencies of this speaker are so clean and so fast that everything you listen to seems



Allegretto Loudspeaker, Sonics by Joachim Gerhard

1/2 Vertical Bleed

to come alive and certain kinds of transients—say, a cymbal crash or particular electric-guitar riff—excite the system to the point of frightening reality. Speaking of cymbals, and at the risk of sounding redundant, the clarity of cymbal strokes is nearly unparalleled in my listening experience. The tweeter Öhman has designed seems to work miracles.

Oh, and the bass? It seems impossible that such a small box can create bass this low, this solid, but the Gurus do it, and part of that is due to Öhman's employment of the floor-wall interface to augment what the speakers themselves do properly on their own. He says you really get four speakers working for you in this way.

To make sure they could rock and roll, I played some Tom Waits who, if truth be told, is really a jazz-beat performer in the guise of a rocker. In any case, selections from his recent *Orphans* collection came to life in my living room with plenty of bam, slam and detail—truly exciting stuff. Bass drums thundered with powerful, tight punch—likewise the omnipresent acoustic bass fiddle. His vocals appeared gritty and forceful, just like they are supposed to. Stabbing electric guitar punctuations ripped the aural texture with a visceral excitement. In sum, the Gurus filled my living room with a Waits concert experience, without waiting in line at box offices or urinals.

On something more, say, reserved, Hank Jones, originally at the behest of the late Tony Williams, recorded a long series of Great Jazz Trio discs, many available only in Japan. Most of these, including *The Great Tokyo Meeting*, also feature bassist Ron Carter. This particular meeting is a live performance which captures the magic of three of the best in the business interacting on a handful of great jazz trio tunes. Japan's East Wind Records did an exemplary job of recording all of these discs and this one is no exception.

In an extended listening session, the Gurus did the recording justice on all counts. The power and finesse of Williams' drumming drives the Trio, and his every stroke emerged perfectly clear and defined; his Gretsch tubs and his legendary K Zildjians were reproduced with tonal accuracy and verve. Carter's bass never missed a beat either. Every plucked note was offered first in its percussive attack perfectly crisp, then followed with the deep, full, tuneful profundity of Carter's very large instrument. Needless to say, Jones' piano maintained its voice as melodic leader through the Gurus as each and every note, every chord, was reproduced as though it was struck a few feet away. But most important, never for an instant did the Gurus allow the music to lose its drive; they never let things drag, but always presented the impression of three amazing players intertwined as one, creating great art through great jazz. And that, in the end, is what great speaker design is all about. **JT**

If you have any comments, questions or ideas regarding Audio/Video Files, Mike Quinn can be contacted at mquinn@jazztimes.com.

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