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REVIEW
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Perlisten R7t Floor-Standing Loudspeaker Review

Review by James Larson of Audioholics.com

Introduction

We were floored by Perlisten's debut with their flagship Signature speakers when we reviewed their S7t tower speakers *Perlisten S7t Review* and S4b bookshelf speakers *Perlisten S4b Review*. They were spectacular speakers, but they were expensive. Perlisten recently expanded their less expensive Reference series *Perlisten Reference Series Preview* where the same overall design can be had but at a significantly less cost. Buyers give up some headroom, but the sound signature should be mostly the same. The Reference series is still pricey for ordinary audio shoppers, but it is roughly half the cost of the equivalent Signature speakers which puts them within reach of many more people.

In for review today are the Perlisten R7t tower speakers, the big boys of the Reference series. They share the same basic design as the S7t speakers but many of the components have been scaled down to reduce costs, and this speaker is half the price of the S7t. That doesn't mean that the speaker is only half as good; while the materials used in the Signature speakers do offer higher performance, the

performance increases don't necessarily scale with higher costs. When Perlisten launched their brand two years ago, they wanted to put their best foot forward and decided to offer the least compromised design possible, so they went with a no-expense-spared strategy that would produce the very best speaker they could design. The Reference series is their product line that uses high-performing but not expensive, exotic parts. They should do much of what the Signature speakers do but with bang-for-the-buck components rather than rarified material components that permit somewhat higher performance but at many times the cost. That brings us to the central question of this review of the R7t: how does it compare to the Signature speakers? Are buyers of the Reference speakers getting 95% of the Signature sound for half the cost, or do the Signature speakers still make a good case for themselves even for systems where cost is a significant consideration? And, disregarding comparisons to its Signature sibling, how do the R7t speakers fare against competitors in the same price range?



Appearance

The R7ts are large speakers but not huge. They aren't going to disappear in a living room, but they won't totally dominate the space either. They do have style and visual flair but in a restrained and mannered way. They look classy without being showy or pretentious, at least in my opinion. The R7t speakers look like a slightly smaller version of the S7ts, so I will just borrow some of my description of their appearance from the S7t review:

"Their most visually distinguishing element has to be the driver array; people who like symmetry will like the look of the R7ts. The drivers are mounted in five circles that protrude from the front baffle with the middle circle housing the tweeter



Design Analysis

The R7ts are technically a 3.5-way tower speaker, but to leave it at that is greatly oversimplifying its design. Perlisten's speakers are unique in the hi-fi loudspeaker world, and I would say one of their most distinct and significant design features is the DPC array. This is a Perlisten-exclusive design that leads to some pretty cool performance attributes. Since the R7t speakers share the same design structure as the S7t speakers that we already reviewed, we will just quote from that review where the design description would be the same, and we will do that here with the DPC array:

“On the surface, it looks like a 3-way speaker in which a dome tweeter is nested between two midrange domes and four 7” woofers, but this is not a conventional WMTMW speaker. Instead, the drivers form an array where they largely work with each other rather than in their own separate frequency bands, so there are a lot of overlapping bandwidths in the crossover filters. This is done to create an acoustic beamforming effect where all the drivers sum up on an intended listening angle and subtract elsewhere. In order to accomplish this, the drivers in the array do not operate at the same amplitude levels or even the same phase angle. In fact, to make the beamforming work, the spacing of the drivers must be precise, both in height and width, but also in depth, and this is why the midrange drivers are mounted ahead of the tweeter in spatial positioning. The advantage of this beamforming is a whole lot of output delivery to a specific direction without needing to throw sound everywhere at a high level. Perlisten calls their beamforming array the DPC waveguide where DPC stands for Directivity Pattern Control.

The beamforming restricted angle occurs on the vertical axis in the R7t speakers. The performance targets for this speaker are a wide horizontal dispersion and a narrow vertical dispersion. The reason is that any room with multiple listening positions is likely to be spread out on a horizontal plane but unlikely to be spread out much on a vertical plane, so it's a good idea to have a full sound pro-

and midrange domes. You could fold the driver array in half either vertically or horizontally, and the halves would be identical. The front baffle has heavily rounded edges with the protruding driver mounts being an intrinsic part of the structure. This baffle is mounted on the main bulk of the enclosure, which is a typical hard-edged oblong shape, although the cabinet does have a slight backward tilt which gives it a bit more flair than if it were standing totally upright.

The base is a thick steel plate with some hefty feet sticking out from the corners. The feet have some brass rings above and below the plate as well as polished brass spiked feet which is a nice touch of class. The binding post plate is a brushed black metal plate with gleaming chrome binding posts joined by a similarly polished jumper.

The R7t cones are a bit different than the S7ts in that the woofers have a black paper pulp texture instead of the lustrous Textreme checkered texture of

the Signature series. The Tweeter is also a black fabric dome instead of the grey dome of Signature's Beryllium tweeter. The R7t speakers only come in a gloss black finish at the time of this writing, but a gloss white is expected to be available in the future. I do wish they came in other finishes such as a matte finish, but the demands of the market would make those options costly since most people would only buy the gloss black. The gloss finish is impeccable with no orange peel effect that is sometimes seen on less refined gloss finishes. Grilles are optionally available for the R7ts for modest fee. They are some magnetically adhesive perforated aluminum discs that just cover the drivers. They do a good job of protecting the cones unlike many other grilles which are just fabric-draped frames, but they don't improve the appearance of these speakers at all.

jected out over a wide angle horizontally so all the listening positions are met with a high-quality sound. It is also beneficial acoustically since it has been shown that lateral acoustic reflections from sidewalls can enhance the spaciousness of the sound, and many people find that to be pleasing. On the other hand, it can be beneficial to restrict the vertical dispersion angle. There is an argument that vertical reflections can reduce a sense of spaciousness (by diminishing inter-aural cross cancellation), although that is based on research conducted for larger room acoustics such as auditoriums and it isn't certain how valid that is for domestic living space-sized rooms.

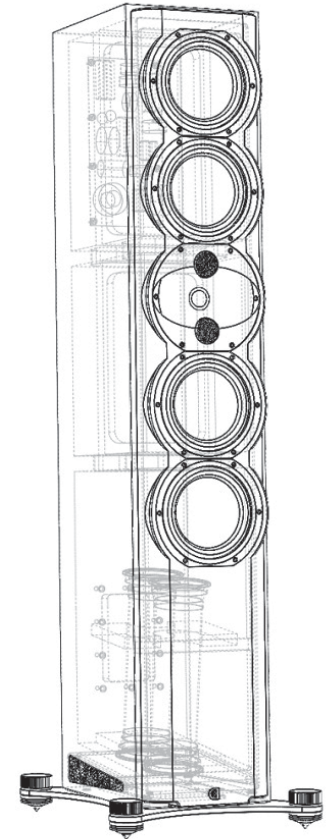
Normally, speakers just use a waveguide on the tweeter to restrict vertical dispersion, but the problem with that is it only affects the tweeter's bandwidth while the woofers and midrange drivers are usually projecting sound out at a wide angle in all directions. Some manufacturers place the midrange in a horn or use very large woofers, but either solution necessarily makes the speaker very large. Through the ingenuity of beamforming, Perlisten has found a way to restrict vertical dispersion over a much wider bandwidth without needing the speaker to be gigantic. Perlisten also does incorporate a state-of-the-art waveguide on the tweeter, but that is to control directivity in higher treble frequencies where their beamforming array isn't active."

The central DPC array in the R7ts is comprised of three 1" silk dome drivers. The 1" drivers use some pretty beefy neodymium magnets in the motor, and that amount of force should have a tremendous level of control over the moving assembly of the domes. Silk is a common material for a tweeter diaphragm and the reason for that is because it works so well without being very expensive. It is light and stiff, and it can operate up to very high frequencies without incurring significant deformation or break-up modes. A waveguide is used to control dispersion on the center tweeter, so the beam-forming of the DPC array operates mostly over the bandwidth of the other domes as well as

the bass drivers down to 500Hz or so.

Also included in forming the array are the four 6.5" bass drivers. Their cones use a material that Perlisten calls "HPF pulp," where HPF stands for Hybrid Pulp Formulation. This is a mixture of long and short fibers as well as bamboo for a stiffer and wool for damping. This is a light and stiff cone composition that can hold a response out to a very high frequency. The motors are beefy ones, as would be expected. They use shorting rings and an aluminum coil in a large iron magnet. Some might complain that using aluminum is mere cost-cutting, but it was a deliberate decision by Perlisten for performance reasons. As we stated in the review of the S7t: "That might seem slightly counter-intuitive seeing as how copper is more conductive, but that extra electrical resistance can be made up by simply using a larger gauge wire, and the larger gauge wire has the added benefit of being better for thermal dispersion since it has a lot more surface area from which to radiate heat. What is more, even with the larger gauge wire, it is still lighter than copper, so using aluminum reduces moving mass, thereby making the driver more sensitive." The combined surface area of the four 6.5" drivers adds up to the surface area of a 13" driver, so these speakers should be able to move a lot of air for some real potent lower frequency output.

As was mentioned before, Perlisten's DPC array requires a very unusual crossover circuit design that features a lot of overlapping frequency bands instead of the normal segregation of frequency bands for each driver type. This is very carefully done so that the phase cycle of the output from the drivers sums up where it is desired and subtracts where it is not. The upper and lower bass drivers play up to 200Hz, the middle set of bass drivers play up to 1.4Hz, the upper and lower 1" domes play from 1.4Hz to 4kHz, and the tweeter plays from 1.4kHz and above. It can be thought of as a 3.5-way design, but, as was mentioned before, that would be oversimplifying what is going on. The crossover circuit uses heavy-duty 1% air-core tolerance inductors and 2% tolerance capacitors



and non-inductive resistors. They aren't quite as overbuilt as the crossover circuits seen in the Signature series, but they still promise very firm control over the signal to the drivers. The R7ts have dual binding posts and can be bi-amped for those who have extra sets of amplifiers.

The enclosure is made from a mixture of 1" thick and 3/4" thick HDF and has a 2" thick front baffle. The interior is divided by three windowpane braces, so the cabinet feels very solid. At 105lbs., it is not an easy lift. It is jam-packed with acoustic damping stuffing. There are two bottom-mounted ports, and they have a 3" diameter and a 12" length and are flared on both ends. Those are some serious port dimensions and are larger than what we see on many subwoofers, so the R7ts should have some serious low end kick. A benefit of down-firing ports is that the speaker can have these large ports without needing to put a bend in them. Bending the ports is tricky to do without incurring port turbulence at lower drive levels than straight

ports would have. Bottom-firing can also help to mask any unwanted port noises at high drive levels while using the base plate to assist in acoustically loading the ports for a more powerful low end. The speakers come with port plugs, but there aren't many circumstances that would justify using them in a design like this. The only circumstances I can think of where it would make sense to plug the port would be if the speakers were placed in such a small room that room gain was really blowing up the low end and equalization isn't available for some reason, or if the user wanted to use subwoofers crossed at a very low frequency like below 50Hz where the phase rotation of ports might make it more difficult to integrate the sub. Outside of those two unusual circumstances, I would discourage the use of the port plugs since they would hurt more than they would help in the vast majority of circumstances. Perlisten should probably not even have included them as standard items in order to protect less informed users from unintentionally degrading the sound by installing them without really understanding what they do.

The plinth base and feet are solid steel pieces that weigh a considerable amount on their own, and they do a lot to give these tall speakers solid footing; they wouldn't be easy to knock over. Users have the option of using some brass spiked feet for carpeted surfaces or skipping the

spikes for a softer, rubber feet bottom that is more appropriate for hard flooring. The binding posts and terminal plate use nickel-coated brass which looks quite fully chromed and quite nice. The jumpers and binding posts have a heavy-duty feel much as would be expected from a luxury loudspeaker of this pricing. As was mentioned before, grilles can be had for the R7ts, but as an optional extra. They are magnetically attached to the front baffle, and they have a strong grip. They are perforated aluminum discs and do offer serious protection against anything that could hit the drivers.

As THX-certified Dominus loudspeakers, the Perlisten R7ts promise an extraordinarily wide dynamic range. "Dominus" is THX's most extreme certification, and it indicates that the speakers can reach THX Reference Level performance at a 20-foot distance from the speakers within a 6,500 cubic foot room. Those who want to know more about Dominus can read our coverage of that certification in this article: *The THX Dominus Line Has Finally Been Breached*, but the short version is that these are tremendously powerful loudspeakers.

Despite their power, one unique attribute of their design is, unlike many other immensely powerful speakers, they aren't penalized by being placed in a smaller room or for closer proximity listening. This is one of my favorite aspects of their design. The close spacing of the drivers means that the speaker's sound field coheres at a much closer distance from the typical floor-standing loudspeakers in this class, so they could theoretically be used as near-field speakers if the user desired. Of course, they are deliriously overpowered for that kind of listening situation, but nothing is lost from a qualitative standpoint; in fact, the speakers would be operating at a level where any distortion would be nearly immeasurably low. Most other high-powered speaker designs use large drivers that are spaced far apart, and they need a significant distance for the sound of the individual drivers to integrate. The R7ts could work just as well in a small bedroom as they would in a large home theater. Much like the other



Perlisten speaker designs, this gives them a versatility that few other speakers have in their class.

Why Does the S7t Cost 2X More than the R7t?

Obviously, the R7t is a hell of a speaker, but what are the physical differences between it and its upscale counterpart, the S7t? Why would anyone spend double the price for the Signature series parallel? As mentioned before, the Beryllium and TexTreme driver diaphragms are lighter and stiffer but far more expensive. The driver motors are also more powerful, so the drivers have more displacement, superior power-handling, and less distortion. The crossover components in the Signature speakers are more robust and also offer higher power-handling and better performance stability over higher currents and temperatures. The Signature series also has thicker baffles, braces, and enclosure paneling. It is also lined with an additional layer of damping that the Reference does not have. The quality control is stricter on the Signature series which has pair matching within an incredible 0.5dB, so tolerances are extremely tight on driver components. The Signature series uses Rhodium plated binding posts on a heavy-duty binding post plate, whereas the Reference series nickel plated posts on an aluminum plate that is half as thick. The Signature series comes with grilles standard, but grilles are optional for the Reference series. This all adds up, and the Signature series is better built and higher performing, but its uncompromised nature really raises the price. Whether it is worth the extra cost is a matter of personal preference, of course, but you are getting much more than just a slightly larger loudspeaker in the S7t.

Taking the R7t speakers on its own terms, it looks to be another superbly engineered speaker from Perlisten. But design analysis is one thing, and real-world listening is another thing, so how does all of this engineering sound in practice? Let's now give it a listen to find out...

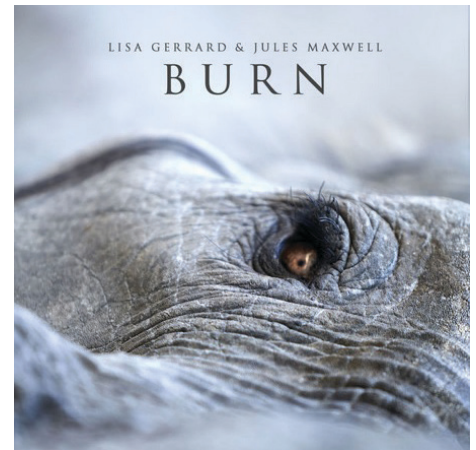
Listening Sessions

In my 24' by 13' (approximately) listening room, I set up the speakers with a few feet of stand-off distances between the back wall and sidewall and equal distance between speakers and listening position. I angled the speakers to face the listening position. The listening distance from the speakers was about 9 feet. No room correction equalization or subwoofers were used. Processing was done by a Marantz 7705 and the amplification was done by a Monoprice Monolith 5x200 amplifier. A special thanks goes out to Monoprice for swiftly providing this high-performance amplifier after my amp kicked the bucket *Audioholics review of the Monoprice Monolith amplifier.*

Music Listening

"Burn" is 2021 release by Dead Can Dance members Lisa Gerrard and Jules Maxwell, so it is no surprise that it sounds a lot like a Dead Can Dance album. Much like Dead Can Dance, it has a big, sweeping, cinematic sound. This lush production uses Gerrard's distinctive voice as more of an instrument since her vocalizations are not pinned on lyrics but rather emphasize the pure sound of her voice. The music sounds like a fusion of rock, new age, and world music, but it isn't really quite any of those things and defies easy categorization. The sound is rich with a multitude of instruments and a thick atmosphere, so I think it's good to use as demo music on account of its spectrally broad sound. This sound engineering is top-notch, and I streamed this album from Qobuz in a high resolution.

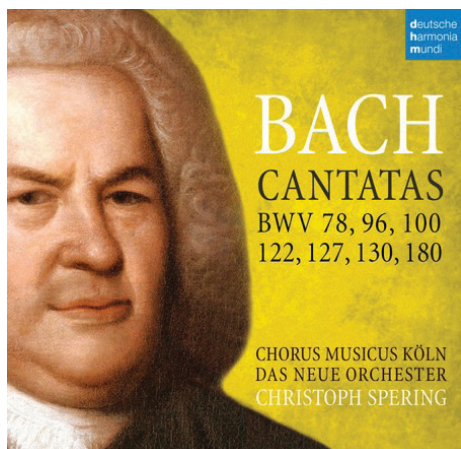
The first track opens with Gerrard's voice anchored squarely in the middle of the soundstage between the speakers. Then studio reverb effects wash her voice to a far-off distance, and the R7t speakers were able to render the imaging and effect with adroit positioning. From a concrete starting point, her voice drifted off in a dreamlike manner that was nicely realized by the R7ts. At many other points throughout the album, Gerrard's voice was mixed in a way that made it seem she was singing at a distance, and the R7ts



"the R7ts had such a wide dynamic range that I could turn the volume up with absolutely no constraining..."

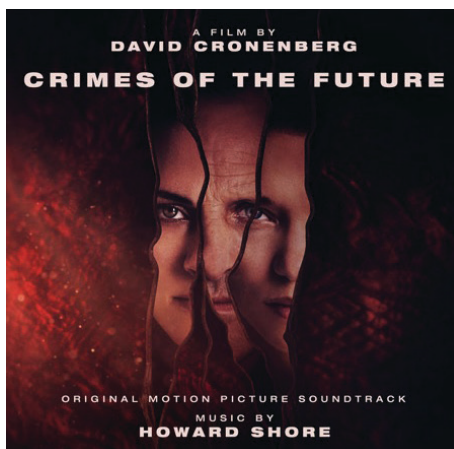
gave the soundstage the depth to make her outlying position clear. The soundstage in many of the tracks was wide, sweeping, and cinematic, and the R7ts projected the wide and enveloping sound called for by the album. In more intimate acoustic settings, the speakers could reproduce the minute details of Gerrard's voice with laser-etched articulation. The percussion was punchy, and the bass extension was deep and powerful enough that subwoofers would not have been able to add a lot beyond what the speakers were capable of. The dynamic range reminded me of a live performance, and there was never even a hint of any constraint by the speakers themselves. They could produce a big sound, and in "Burn," they did so. At the album's end, the experience made me wish I had these speakers long enough to go through more of Gerrard's back catalog.

A brand-new album of a selection of Johann Sebastian Bach's cantatas caught my attention while pursuing the new releases in Qobuz's classical section. It is imaginatively titled "Bach Cantatas" and focuses on the annual cycle of chorale cantatas that he wrote from 1724 to 1725.



Bach wrote roughly two-hundred cantatas, and many in this cycle are considered to be high points for this style. This gorgeous music is performed by the choir Musicus Köln and period instrumentalists Das Neue Orchester who are together led by Christof Spering. It was recorded in the Herz-Jesu-Kirche in Mulhlem, Germany, and is released by Deutsche Harmonia Mundi, a subdivision of Sony Classical that specializes in early and baroque music. Needless to say, as a Sony Classical album, the recording quality is outstanding.

On the R7t speakers, it was easy to discern that the performance was recorded with an overhead mic pair. The position of the performers was well-defined within the soundstage, yet the reverberant acoustics of the church venue was still coming through clearly. The altos, sopranos, tenors, and bass singer positions were distinct, especially during solos. The same was true for instruments; instrumental sections were localizable, and they imaged very precisely for solo playing. The reverb gave a sense of the spaciousness of the Herz-Jesu-Kirche, and the R7ts teleported me into the church whenever I closed my eyes. The instruments and singers all sounded superbly balanced, and nothing was over-emphasized or recessed. Every instrument and singer had an audible presence and none of the performers seemed to get lost even in the denser passages, a quality that was surely intended by the mixing engineers. Of course, that is a goal of THX; the end user experiences what is intended by the artists, so this balance comes as no surprise. Everything sounded



natural and tonally neutral. This recording as well as the speakers had such a wide dynamic range that I could turn the volume up with absolutely no constraining, and I was only limited by my own electronics which exhibited clipping noises above a certain point. I have no doubt that those who are looking for speakers for a live sound recreation of orchestral music would get that if they supplied enough amplifier power to the R7ts. However, this album sounded terrific on these speakers at any loudness level, and classical music lovers have a rock-solid choice in them.

“The R7t speakers beautifully recreate this recording that I doubt the next speaker I get in for review could match.”

Sometimes film scores transcend being a mere accompaniment to their respective companion piece, and I feel that Howard Shore’s score for “Crimes of the Future” falls into this camp. “Crimes of the Future” is a new film from David Cronenberg and is his most ‘Cronenbergian’ yet, and perhaps this has pushed Shore to produce a more far-out and experimental soundscape than what is found in a traditional score since they have collaborated so much together. Cronenberg and Shore have so far been a felicitous pairing and



have had an outstanding streak of success together with Shore scoring all but one of Cronenberg’s nineteen features (“The Dead Zone” for those who are curious). Of the many great scores that Shore has composed for Cronenberg, the “Crimes of the Future” has to be among the best and is a surprisingly innovative score so late into a forty-year partnership. It is a seamless mixture of orchestral instrumentation and dreamlike electronics that should be required listening for fans of neoclassical music.

The main theme starts out with a shimmering synthesizer that trickles into an ensemble of brooding trombones, and the R7t speakers beautifully recreate this dark and mysterious opening. The tracks on this album can be almost fully orchestral or fully electronic or a mixture of the two, but the instruments sounded powerful and vivid regardless of whether they were acoustic or artificial. The track “Body is Reality” throbbed with a pulsating bass line that filled the room with low-frequency energy. It had a sinister feel that the R7ts gave an unnerving level of intensity. A few tracks were hardly more than delicate atmospherics, and the speakers had a fine touch that could give these sounds definition but without losing their soft and ethereal character. While this is a studio album, the sound engineering gives the impression of it being recorded in some kind of reverberant dreamspace, and the R7ts reproduced this sensation with aplomb. They recreated the surrealistic environment of this music in my living room with a terrific capacity for immersion. The

soundstage was so sharply realized that I have to wonder why so many people go through the huge effort of adding a bundle of other channels in their system when two good speakers like these can do so much sonic immersiveness on their own. The “Crimes of the Future” soundtrack sounded phenomenal on the R7ts; this is certainly not the last time I listen to this wonderful score, but I doubt that the next speaker set I am able to spin this album on will be as good as these speakers.

For something to see how loud and low the R7t speakers could get, I threw on G Jones’ “Tangential Zones,” an EP of electronic bass tunes that are not shy of using excessive deep bass. G Jones keeps the tracks fresh by always varying rhythm and modifying the lead sound, and that promotes this music above typically monotonous dance music. The music is fun, playful, and inventive, and it sounds great on a capable sound system, but it will expose the weak points of a system at a high enough drive level. I didn’t expect to have enough amplification to push the R7ts that hard but decided to see what 300-watts per channel could do on them anyway.

I cranked the volume as loud as I could personally stand, and, as I would have expected of these speakers, they had absolutely no trouble at ‘party’ levels. Kick drums had visceral punch, snares had a life-like snap, and hats shimmered with sparkling detail. I could feel the bass rumble in my chest. Mid-bass had subwoofer-like slam, although the speakers couldn’t quite match a good sub for the deepest notes. Very deep bass was present but just not with the dynamics that a beefy sub could supply at loud levels. However, with a specified -10dB point of 27Hz, that is about what I would have expected. Nonetheless, the bass that the R7ts could produce was overall very good. The arpeggiated bass line of the track “Dark Artifact” sounded terrific, and while a sub could enhance this type of music, subwoofers are definitely not needed to enjoy electronic bass music with the R7ts. The following track, “Dream Fatigue,” killed on the R7ts as well, with a thundering bass line that pounded my

entire room with low-frequency weight. I Had a lot of fun listening to “Tangential Zones” on the R7ts at bonkers-loud levels, and it is an experience I can heartily recommend to all lovers of electronic bass music.

Movie Watching

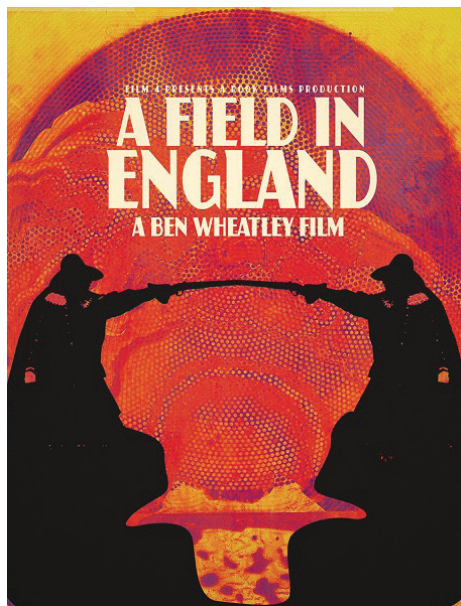
I had yet to get around to watching the fourth season of “Stranger Things,” since I was waiting for some really capable speakers to enjoy it. I decided that it was now time since I had some THX-certified Dominus speakers in-house. I had enjoyed all the preceding seasons and was eager to take the plunge into the fourth, and I figured it would also be a good opportunity to see what the R7ts could do with a major television show. Netflix would surely pull out all the stops to give its golden goose the attention it deserves, and a part of that would be the best sound mixing and mastering that money can buy. “Stranger Things” especially warrants first-class sound engineering since the music has always been one of the major draws of this show.

After having watched “Stranger Things 4,” I can understand now how it made Kate Bush’s “Running Up That Hill” a chart-topping hit again after 37 years since it played such an important role in the show. The show’s sound mix was complex and had to incorporate rapidly delivered dialogue, effects sounds, and lots of music of both diegetic and non-diegetic types. It’s a busy sound palette, but everything sounded clear and balanced. Kyle Dixon and Micheal Stein turned in another great original score, and their retro analog synths sounded forceful and vibrant. The diegetic pop music sounded great too with hits from Talking Heads, The Cramps, and The Beach Boys, although they did sound implausibly good for the sound systems that the characters would have been listening to in the show’s setting. The dialogue was never anything less than crystal clear, even though much of it was delivered as snappy patter. Effects noises were visceral and intense; in particular, the antagonist Vecna’s voice and assaults were rendered with a frighteningly



potent authority that made it seem huge and unstoppable. The bass was powerful, and the thunder and earthquakes of the ‘upside down’ world were reproduced with room-shaking violence. Imaging was superlative as well, and sound sources panned seamlessly across the front stage to a point that negated any need for a center speaker (at least for the sweet spot where I was listening- off-center listeners would still benefit from a center speaker). I enjoyed “Stranger Things 4,” and I hope I will have speakers as good as the R7ts when the fifth season comes out.

I finally found the time for a movie that had long been on my watch list which was 2013’s “A Field in England.” This eclectic film takes place in the English Civil War and concerns three deserters who are forced to look for some buried treasure in an open field by an alchemist. What they find instead is some kind of psychedelic substance that drives them into madness. This bizarre black and white film promised an equally bizarre sound mix, and I thought it would make for an interesting demo for the R7ts on that account.



“Orchestral pieces, and ominous ambient electronics, and it all sounded terrific on the R7ts.”

“A Field in England” turned out to be a bit more far-out than I anticipated, but I still found myself enjoying its peculiar nature. To say that the sound mix was unusual would be an understatement, but it still had a dynamism and immediacy that is rewarding to hear on a high-performance sound system. The dialogue was period-appropriate Elizabethan English, and it does demand some attention be paid by my twenty-first century midwestern ears to follow, but thankfully the R7ts added clarity to the recorded speech so that the only challenges were wording and accents rather than the intelligibility of the words themselves. I would definitely not want to view this movie on a system that hinders dialogue intelligibility in the slightest, and thankfully, the R7ts speakers were more than good enough to clear that bar. The music was a mix of period music (in particular, the Scottish folk ballad “Baloo My Boy”), orchestral pieces, and ominous ambient electronics, and it all sounded

terrific on the R7ts. One striking example was the music used to complement the character Whitehead’s crazed emergence from his torture by the alchemist: a pivotal point underlined by a dramatic and eerie motif that shined brilliantly on the R7ts. Effects sounds consisted of environmental noises of nature as well as a smattering of warfare and gunfighting, and they sounded crisp and immersive on these speakers. Much of what made this sound mix so remarkable was what wasn’t heard as much as what was, so the conspicuous absence of sounds to accompany the on-screen events made the sounds that were used all the more arresting. “A Field in England” certainly isn’t a movie for everyone, but those who enjoy a more daring and experimental film should really make a point of checking it out on a sound system as capable as the R7t speakers.

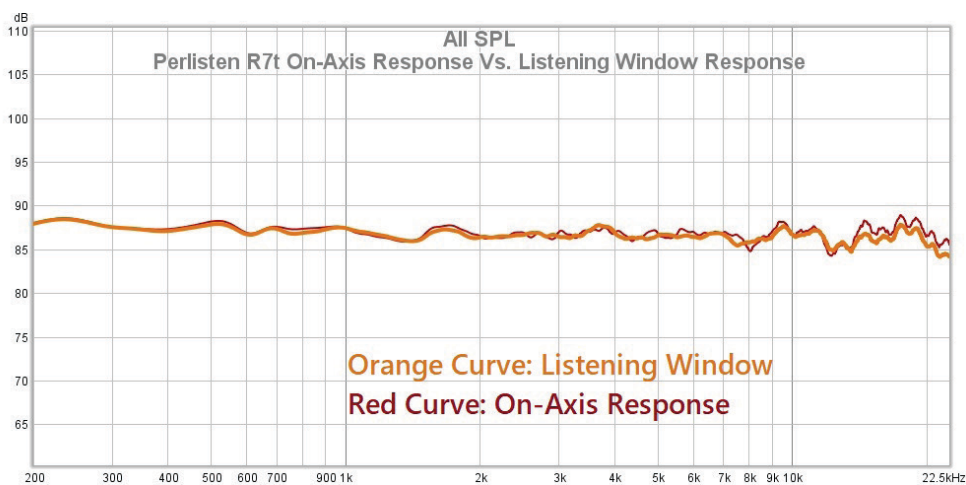
Measurements

The Perlisten R7t speakers were measured in free-air at a height of 6 feet at a 2-meter distance from the microphone, with the microphone raised to an 8’ elevation that was level with and aimed at the tweeter center. The measurements were gated at 11-milliseconds. In this time window, some resolution is lost below 400 Hz and accuracy is completely lost below 200 Hz. Measurements have been smoothed at a 1/24 octave resolution.

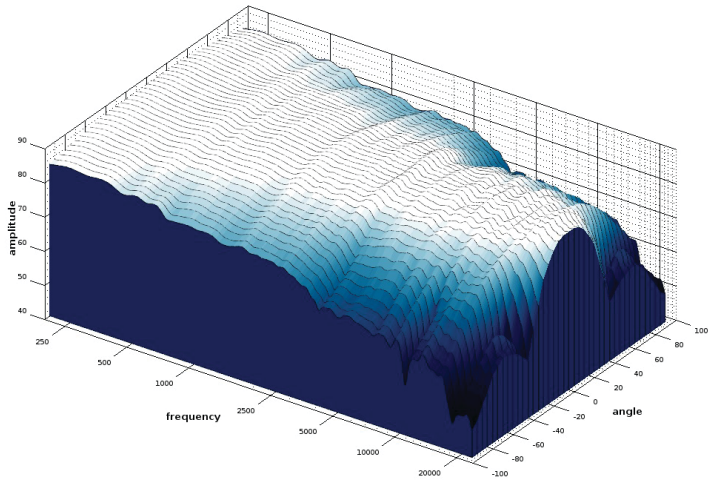
The below graph compares the on-axis response to the listening window response. The listening window is an aver-

age of horizontal responses out to 30 degrees and vertical responses out to 10 degrees. The first thing to note about these responses is how extraordinarily flat they are. That means we are dealing with an exceptionally accurate loudspeaker. The second takeaway is how closely the listening window resembles the on-axis response. That means there will be very little change in the sound at any reasonable listening position, so these speakers aren’t fussy regarding angling or placement. Listeners will be exposed to an accurate sound over a broad swath of area in front of the speakers. Different toe-in angles may produce slight changes to the character of the soundstage, but it will not impact tonality.

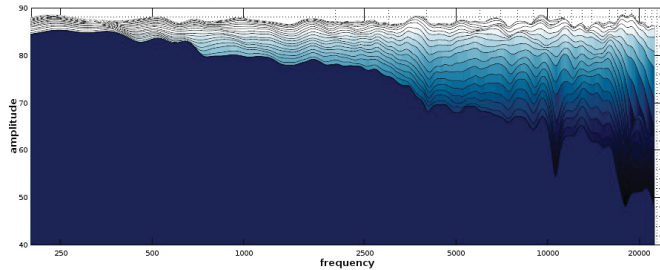
The next page graphs depict the R7t’s direct-axis and horizontal dispersion out to a 90-degree angle in five-degree increments. Information on how to interpret these graphs can be read in this [article](#). Here we get a look at how well the R7t’s off-axis responses correspond to the on-axis response as well as each other. Again, this tells us that this speaker maintains an accurate response over a broad angle. We do see some slight directivity errors develop in far off-axis angles, but even these are so narrow and low in amplitude as to be audibly inconsequential and of academic interest only. Again, the keyword for this set of measurements is accuracy; indeed this is more accurate than most studio monitors. In fact, these speakers could easily be used for recording, mixing, and mastering in a studio environment,



Perlisten R7t Horizontal Frequency Response +/- 90 degrees on axis



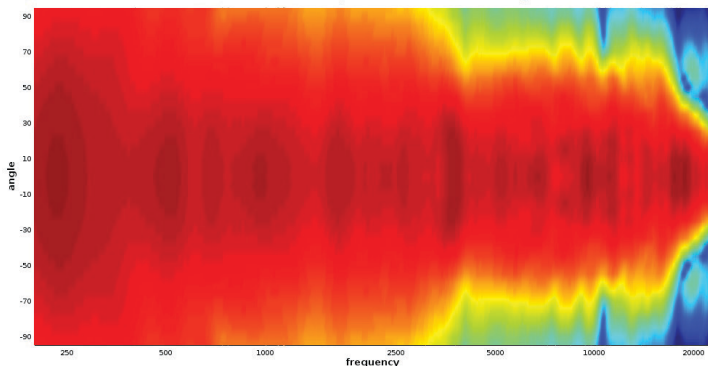
Perlisten R7t Horizontal Frequency Response +/- 90 degrees on axis



and they would work better in that application than most loudspeakers made specifically for that application.

What these graphs also tell us is that the R7ts don't need a lot of expensive acoustic treatments to sound good. Since there is such good correspondence between the shape of the on-axis curve to off-axis curves, the in-room acoustic reflections will not have a dissimilar sound from that of the direct sound of the speaker itself. In other words, listeners do not have to be protected from a subpar off-axis response by acoustic treatments as they might if the speaker had problems in this respect.

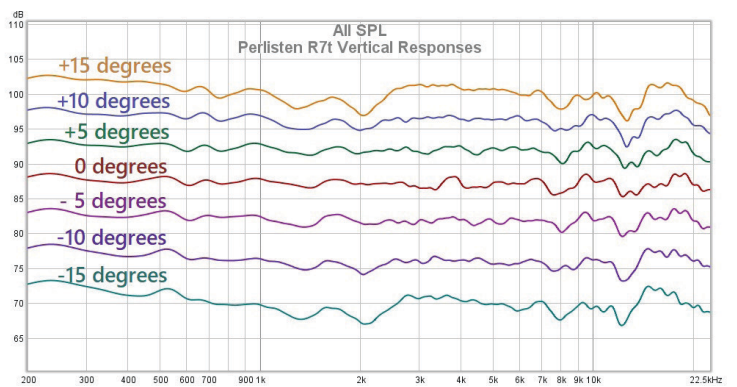
Perlisten R7t Polar Map: Horizontal Axis. 90-Degrees



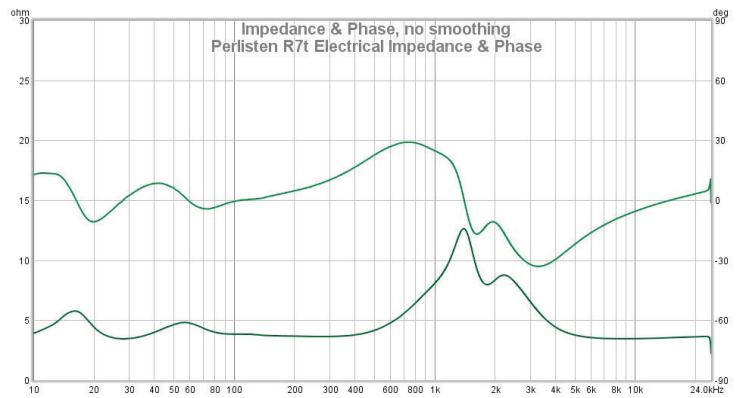
The above polar map shows the same information in the preceding graphs but depicts it in a way that can offer new insight regarding these speakers' behavior. Instead of using individual raised lines to illustrate amplitude, polar maps use color to por-

tray amplitude, and this allows the use of a purely angle/frequency axis perspective. The advantage of these graphs is they can let us see broader trends of the speaker's dispersion behavior more easily. More information about interpreting this graph can be read in [this article](#).

In this graph, we can see the width of the dispersion better. Up to around 3kHz, the dispersion covers around a 90-degree angle out from the on-axis angle. It tightens up a bit above 3kHz and narrows down to around a 60-degree angle. Above 17kHz or so, the tweeter starts to beam, but it is maintaining a wide dispersion well above what most dome tweeters are able to do. In fact, I rarely see such a high-frequency dispersion in upper treble aside from ribbon tweeters. All in all, this is a very good showing, and these R7ts will cover the listening area with a full sound from low bass to high treble. The best region to be in would be the dark red area where the response would be flat as a pancake, and we see it holds a consistent beamwidth at 30 degrees off-axis from just above 500 all the way to 20kHz which is exemplary directivity control much like we saw with its big brother, the S7t. It isn't surprising considering past achievements from Perlisten, but it is still extremely gratifying to see as a technical feat.



The above graph is a sampling of some of the vertical angle responses at and around the on-axis angle. Negative degrees indicate angles below the tweeter, positive angles indicate angles above the tweeter, and the zero degrees angle is level with the tweeter. The R7ts maintain their extreme linearity from +10 degrees to -10 degrees where their response is ruler flat for most of the bandwidth. At +/-15 degrees, some dips centered around 2kHz do start to appear, but the response is still very good overall and much better than average for that angle. Seated listeners will be within a +/-10 degree vertical angle of the on-axis response, so there is mostly just very good news exhibited here. While I wasn't able to measure the entire circumference of the vertical axis, I would expect it to behave much like the S7t where the DPC array greatly reduces output above and below 25 to 30 degrees on the vertical axis. That means there will be very few acoustic reflections from vertical surfaces, so again, this is a speaker that negates the need for acoustic treatments; there is no need for absorption or diffusion if there is nothing to absorb or diffuse.



The above graph shows the electrical behavior of the Perlisten R7t. Perlisten specifies this speaker to have a 4-ohm nominal load, and that is what we see. The impedance is relatively steady instead of taking big swings in values, and that should help to make for a predictable load for amplifiers. There aren't any dips into very low impedances nor are there any steep phase angles at lower impedances, so this isn't an extraordinarily difficult load for most amplifiers. Entry-level amps might have a hard time driving these speakers at loud levels, but I am guessing that no one who buys these speakers will run them on entry-level amplifiers. We can see from the nadir between the saddle peaks in the low frequencies that the port tuning frequency looks to be around 30Hz.

Conclusion

Before bringing this review to a close, I will briefly go over the strengths and weaknesses of the product under review, and, as always, I will start with the weaknesses. Historically, Perlisten products are so well-engineered that they hardly have any weaknesses, and that remains true for the R7t speakers. But speakers of this build quality and finish quality will always have the catch of being pricey. There is no way to build something like this cheaply, so the expensive pricing is not something that can be fairly held against them. \$10k for a speaker pair is a tremendous amount of money for most people, but that is not out of reach for a determined middle-class audiophile, and in my estimation, you do get \$10k worth of speakers, so the R7ts are not overpriced in the slightest. However, their pricing places them out of reach for a lot of people, sadly. It's a shame because I am sure that the sound that these things can make would blow a lot of people away. One thing I would like to see from Perlisten is a more utilitarian version of these speakers that does away with all of the luxury flourishes and just focuses on those components that further sound performance. A studio monitor version might be a great way to bring its sound performance down to more affordable levels.

Something else I would like to see is a finish in something other than just gloss. At the moment, the R7ts can only be had in gloss black, although there is a gloss white version in the works. This is a more personal nitpick, but I would really love to see these speakers in a fine satin finish. A satin black would be swank, but a satin

white would be absolutely stellar.

Moving on to the strengths of the R7t speaker does make for a long list since these speakers excel in every category. First and foremost is the sound; These are very accurate loudspeakers that have a magnificently controlled dispersion pattern which maintains their neutral sound character over a wide area. As we said before, they are easily accurate enough to be used as studio monitors if anyone wanted to use them for recording, mixing, and mastering. The sound integrates at close proximity, so these could be used for near-field listening, but they have a tremendous dynamic range, so they are powerful enough for larger rooms and more distant placements as well. This grants them a unique flexibility among hi-fi floor-standing speakers, most of which

“A ‘knock-test’ anywhere on the speaker reveals more about the fragility of human bones than they do about the speakers”

do need a good distance from them for the sound to cohere. What is more, many high-end floor-standing speakers do not have the same level of directivity control, so they may need a bevy of expensive and intrusive acoustic treatments to reach their potential, but the R7ts’ vertical and horizontal dispersion characteristics mean they can work splendidly in a typical domestic room, and additional acoustic treatments just aren’t needed at all to obtain an excellent sound.

They are great choices for either a simple two-channel stereo rig or as a part of a larger surround sound system, and, as we noted, they would even work superbly as studio monitors for those who need an accurate and uncolored look at what their mix sounds like. While they can benefit

from lots of clean power, they don’t need anything special in terms of amplification to sound good. Despite their unusual and sophisticated crossover network, they still present a very smooth and even electrical load on amplifiers, so nothing particular or fancy is needed for amplification.

Their sound quality is matched by their impressive build quality, and the R7ts have a solidity that imparts a feeling that they will last for many decades. A ‘knock-test’ anywhere on the speaker reveals more about the fragility of human bones than they do about the speakers since it is like rapping on a granite slab. In addition to the sound and feel of the speakers, the R7t speakers look the role of formal hi-fi luxury speakers as well. They are attractive speakers and look very serious and business-like.

With the bottom line being that the R7ts are really good speakers for the money, one question that comes up would be are the Perlisten S7t speakers worth the premium? My answer is that it depends on what the user prioritizes. The S7ts are more sensitive, have a wider dynamic range, lower bass extension, and have an even better build quality. They are undoubtedly a better speaker, but the core sound character is the same. I would say if you don’t need the absolutely massive dynamic range of the S7ts, it takes away a major argument in spending the extra money to get them over the R7ts. For those who will be crossing the low-frequencies over to subwoofers, that also negates an advantage of the S7ts. If you are OK with merely outstanding build quality and don’t need the extreme overkill build of the Signature series, the Reference is a worthy alternative.

If I were shopping for speakers in this price range, the R7ts are definitely among the top choices I would be looking at. There are a lot of good loudspeakers in this range, but this brand-new speaker from a relatively new brand in the loudspeaker market more than holds its own as a compelling option. There are a lot of situations where I would go straight to the R7ts as a no-brainer such as if I wanted some high-performance tower

Review Summary

Product Name: **R7t**

Manufacturer: **Perlisten**

MSRP: **\$10,000/pair**

Performance: **5/5**

Value: **5/5**

www.perlistenaudio.com

Pros

- Highly accurate sound reproduction
- Very wide dynamic range
- Excellent dispersion and directivity control
- Works well in any size room
- Terrific build quality
- Attractive finish and appearance

Cons

- Expensive

speakers in a small room; they can work just as well in a small room as a large one. Much like its bigger Perlisten brother that we reviewed, the R7ts shows that there are still opportunities for innovation left in passive loudspeaker design. While most companies were touting minor changes in driver motor structures, diaphragm composition, and enclosure construction techniques, Perlisten has rethought how drivers and crossover circuits can be arranged in controlling the way the sound pressure wavefront is launched from the speaker. It’s a revolution in hi-fi loudspeaker design in an age-old industry that is mostly characterized by modest evolutions. 



Score Card

The scoring below is based on each piece of equipment doing the duty it is designed for. The numbers are weighed heavily with respect to the individual cost of each unit, thus giving a rating roughly equal to: **Performance x Price Factor/Value = Rating**

Audioholics.com Note: The ratings indicated below are based on subjective listening and objective testing of the product in question. The rating scale is based on performance/value ratio. If you notice better performing products in future reviews that have lower numbers in certain areas, be aware that the value factor is most likely the culprit. Other Audioholics reviewers may rate products solely based on performance, and each reviewer has his/her own system for ratings.

Audioholics Ratings Scale:

- ▲▲▲▲▲ **Excellent** (reserved for features or areas that exceed market norms)
- ▲▲▲▲ **Very Good**
- ▲▲▲ **Good**
- ▲▲ **Fair**
- ▲ **Poor**

METRIC	RATING
Build Quality	▲▲▲▲▲
Appearance	▲▲▲▲▲
Treble Extension	▲▲▲▲▲
Treble Smoothness	▲▲▲▲▲
Midrange Accuracy	▲▲▲▲▲
Bass Extension	▲▲▲▲
Bass Accuracy	▲▲▲▲▲
Imaging	▲▲▲▲▲
Dynamic Range	▲▲▲▲▲
Fit and Finish	▲▲▲▲▲
Performance	▲▲▲▲▲
Value	▲▲▲▲▲



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