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BY LORENZ RYCHNER

review

JBL LSR4300 Series Monitors



The cabinet

The LSR4328P's cabinet is about as large as a typical single-room personal studio will accommodate for typical nearfield use: 17 1/4" x 10.5" x 10.6". At 32.5 lbs. it's quite hefty, but moving it about is made easy by JBL's thoughtful inclusion of recessed handles on the sides.

The look of the fascia is traditional from the top down: a 1-inch tweeter sitting in a waveguide above the woofer. There are no grilles. It's below the woofer, in a row across almost the entire width of the cabinet, where the fun starts: An illuminated JBL logo, then a strip of LEDs above 8 lit pushbuttons, plus a pair of \pm buttons.

The upper two thirds of the rear are taken up by a substantial heat sink, encircling a port opening with a 4" diameter. The sink barely felt warm after many hours of operation, admittedly at sane levels of roughly 85 dB max. SPL at the listening position. Below the heat sink is a panel jam-packed with I/O and control features (see below).

The LF amp is stated as 150W, the HF as 70W. The crossover frequency is 2.2 kHz. Positioning is recommended in the usual common-sense locations—as an equilateral triangle with the listener's head, tweeters at ear level, preferably away from boundaries and reflective surfaces.

Rear panel

The expected connectors: 3-prong IEC for power, and separate balanced XLR and 1/4" jacks for analog audio input at line level (not to be connected concurrently), with a two-position in-out switch for sensitivity selection: -10 dBV ("out") and +4 dBV ("in").

The less expected connectors: Two XLR (AES/EBU) and two RCA/phono (S/PDIF) connectors for digital audio in and out.

The "what-the-heck-are-these?" connectors: Two identical RJ45 (CAT5 Ethernet) connectors, labelled (Harman) HiQnet; a USB connector; and a 1/8" socket for the calibration microphone that we'll describe in a moment.

Eight DIP switches and five LEDs to identify the currently active input complete the rear.

It's no secret that speakers and the listening room interact in significant ways. Treating a room is one way to combat acoustic anomalies. JBL takes another route, at least with the low end: with its Linear Spatial Reference technology that began with the 6300 Series of monitor speakers (reviewed September 2005), and now continues with the 4300 Series discussed here, JBL offers a way to rectify low-frequency anomalies from within the speakers, by adjusting their frequency response in reaction to the room's acoustic identity. The 4300 series is geared towards the personal studio, the post room, and many more applications. Sounds intriguing? Let's take a look and a listen.

The 4300 Series has three speaker models: the 6" woofer LSR4326P, the 8" woofer LSR4328P, and the LSR4312SP 12" sub-woofer. All models incorporate the control features I'll describe below; I evaluated a pair of the LSR4328P speakers in this review, without the sub.

The system

The overall idea behind the design of the 4300 series is this: All speakers are linked and each speaker's location is identified with a DIP switch in the rear, i.e. Left, Right, Center, L Surround, R Surround, C Surround, L Extra, R Extra. The entire system can consist of as little as just a stereo pair (which is what I evaluated), or anything up to eight main cabinets (could be a mix of the 4326 and 4328 models) and two subwoofers, for a surround setup sure to impress clients... and the entire neighborhood.

The speakers extract the correct channel, L or R, from the digital single-wire stereo feeds. Switching among the three input sources (analog or S/PDIF or AES/EBU) is instant, from either the front of the cabinet or remotely.

Since they're all linked, adjusting the volume or other parameter of one speaker adjusts them all. This can be done on the front of each speaker, or from a supplied wireless remote, or from a computer running the supplied proprietary software over the supplied USB cable. These accessories all come with the speakers. When that's not what's needed, individual speaker

There's also a Dim control that takes the volume instantly down by 12 steps (which equals 12 dB when the system is running at full volume), and a Brightness control to adjust the displays on the cabinets. Again—you point the remote at the left speaker, and they all respond.

The LSR4300 Control Center Software offers further control: Muting the entire system or individual speakers; trimming individual speaker levels in increments of $\frac{1}{4}$ dB; display of each speaker's RMC filter and trim settings; adjustment of the LF and HF center frequencies of the system eq; creation, storage and upload of custom eq presets; saving and loading of entire system configurations.

Does it work?

Like a charm. I used my evaluation pair in my music room where, for the time being, I'm dealing with a less-than-ideal acoustic situation, and calibrating the pair made a subtle difference that helped with some low-end issues. The software documented a huge notch; it looked more drastic than the result

Wouldn't it be great if your speakers could adjust to your room? Now they can.

levels can be trimmed $+3/-10$ dB in $\frac{1}{4}$ dB increments using LSR4300 Control Center Software.

This global control will be a welcome feature for those who need a central control over the level of a 2.1 or any kind of a surround system, and it is handy for even a stereo L+R setup. Should you wish to use the speakers independently of each other, not networked, then simply set each speaker's DIP switch to "Left" (never mind the speaker's intended function in the non-networked setup) and each will accept its own audio feed, on any of the three inputs, and be controllable individually. As you'll see, the speaker designated as the "Left" acts as the master in the network for certain functions.

RMC—Room Mode Correction

With the earlier 6300 Series, the room measuring and speaker calibrating that JBL calls RMC was implemented in fairly labor-intensive ways (including paper and pencil)—Giles Reaves described the process in the September 2005 issue. The 4300 Series incorporates second-generation RMC technology that is now automated and executed in a matter of seconds.

The 4300 series speakers come with a kit that includes, among other things, the aforementioned calibration microphone, with a stand mount. You position the mic at the listening position, pointing at the ceiling, and you connect it to the speaker that you set up to have the DIP switch in the "Left" position. After pushing and holding down the RMC button (on the cabinet or in the Control Center Software), you step away so as not to be in the path between speakers and mic, and you brace yourself for a series of fairly loud sinewave swoops from low to high that will startle your cat (I can vouch for that).

That's it—the system makes use of filters to compensate for low-frequency anomalies it sensed in the room during calibration, and you can A/B the resultant response against the non-calibrated response. Depending on your room's acoustics you may hear a big difference, or not.

More control

All networked speakers in a setup may be equalized globally, again from the front of a cabinet or remotely. Once the eq button has been pushed to activate eq, the user selects either HF or LF and adjusts the selected band up or down by $\frac{1}{4}$ dB increments, up to ± 2 dB. The HF eq defaults to a 2 kHz shelf, the LF eq to a 500 Hz shelf.

Up to six Presets and a "null" may be recalled from the front panel or with the remote. User preset storage is possible over USB from a computer running the LSR4300 Control Center Software.

sounded to my ears. As are many things audio, this one is hard to quantify in words, but A/B listening brought out the additional clarity where strong bass content had sounded fuller than it should have in some parts of the bass range.

It's tricky, though—we tend to prefer erring on the side of overly full bass. Boomy, downright mushy bass tends to offend many listeners less than does an overly lean and skinny bass; just watch customers in a hi-fi store when the "loudness" switch is engaged, they're happy with the extra oomph that, more often than not, lacks clarity....

Luckily, if boomy-ness is caused by the room, the LSR4300 RMC system will go a long way toward eliminating it so you can make accurate creative decisions. The 4328P cabinet is capable of delivering serious low end; it reaches way down and maintains a deep and full bass even in a room that needs some adjustments. Calibration in my first instance didn't mean thinning out: this is not a heavy-handed approach, but a musical one. If you're zeroing in on a given pitch in a walking bass line, a re-occurring note that steps out a bit due to room resonance, it's easy to hear how it is being tamed by the calibration process—simply switch the calibration in and out as the tune unfolds and compare.

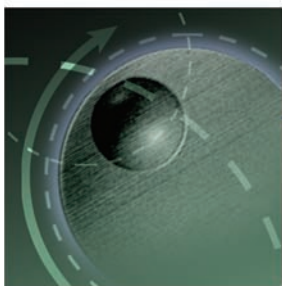
I took the pair up to the living room, with high vaulted ceiling and open floor plan, a typical situation that required recalibration, after which things sounded pretty much like they had in the entirely different downstairs environment, as long as I stayed in the listening position where I had positioned the calibration mic. So this system does deliver a low-end consistency from room to room, something a recording musician needs badly.

Can this system eliminate all room flaws below, say, 100 Hz? While it will tackle the most significant problems below 160 Hz, it can't altogether rectify egregious flaws in egregiously flawed rooms. But in a nearfield situation, with reasonable and consistent volume levels, this goes a long way towards delivering a low end that will translate well to other playback setups in other rooms. And that's a mighty good thing.

Overall sound

This is one speaker I could get used to in a hurry. For my taste it delivers the right amount of rich but accurate bass, great midrange detail, and adequate high end.

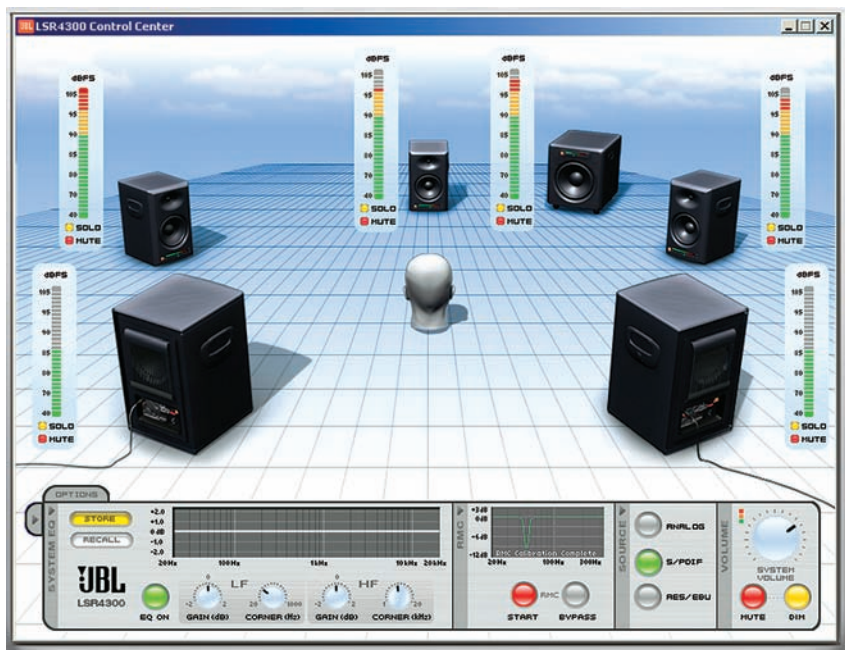
In detail: I ended up listening to lots of bass, of all kinds, first to get a handle on the low-end calibration and filtering the system does, but soon for sheer enjoyment—the 4328P brings out the fundamental and the crucial overtones so well that well-recorded upright basses simply shine. A lot of that is due to the midrange response, of course—that's where finger



squeals, tonal shadings from string to string, and string buzzes live. Electric bass did equally well down low and finger pops and slaps are well defined. Kick drums in sample libraries came across with individual tones that many "beefy" woofers disguise into a much-of-a-muchness, and low piano notes had the requisite rumble without mush. I never longed for the subwoofer, but then I didn't need to impress any clients during my evaluation....

from equipment I had recently relocated, off to the side but obviously still somewhat in the audio path from speaker to listening position. Had me fooled, plain and simple. If only the RMC calibration could extend to those high frequencies, to save us from ourselves... (Just kidding, JBL.) As soon as I covered up those harsh equipment surfaces, the highs were just fine.

I can report no listener fatigue, no matter how long I had this pair of 4328P speakers going. Spatialization is excellent, the sweet spot is sufficiently wide for near-field use with a computer workstation or a small board. If need be, the cabinets can be mounted, using industry-standard mounting hardware such as the Omnimount Model 30.



The LSR4300 Control Center software, here shown with a 5.1 array.

There is something about the midrange response of the 44328P that makes singers, especially females in the typical pop/jazz alto range, stand out as if they had stepped forward to the footlights of the stage. It's not a harshness, just a clarity and directness that is most engaging. It serves acoustic guitars well, too, and has a very open sound that lets you hear deep into complex mixes.

The high end caught me in two minds. While I always heard it as being crisp and clear, at first I didn't judge it to be exceptionally smooth—on some material I heard the tweeter lose clarity when taxed by a lot of high-end content in the source material. Some highly intense high-strings and woodwind passages of orchestral repertoire brought out a touch of shrillness at reasonable listening levels. This first (and repeated) impression turned out to be caused by smear and backslash

So...

The LSR4328P cabinets offer great sound and thoughtfully provided practicality. The networking and global controls make it easy to work with a complex setup without the need for a dedicated monitor system control device. The RMC calibration could not be simpler to execute, and it yields impressive results. Highly recommended. ➤

Prices (all suggested retail): LSR4328P Pak (as reviewed), with two speakers and calibration accessories, \$1699; LSR4326P Pak, \$1399; LSR4312SP subwoofer, \$1100; individual speakers available for building larger systems.

More from: JBL Professional, 8500 Balboa Blvd., Northridge, CA 91329. 818/895-8850, www.jblpro.com.