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Studio

# JBL LSR6328P
## Powered Studio Monitor

BY JOHN GATSKI

Once upon a time, JBL was the king of the mountain when it came to studio and broadcast monitor speakers. In the age of powered speakers, however, JBL got left behind a bit, and other companies stepped in with innovative speaker designs and they gained a healthy share of the powered speaker market.

JBL entered the powered monitor game with its LSR series about five years ago. But with the introduction of its latest generation powered monitors, JBL is making a bold statement that the company is serious about restoring itself to the top perch in professional speakerdom.

### FEATURES

The LSR6328P reviewed here lists for $2,678 per pair and features JBL's latest amp, crossover and driver technology, plus the handy Room Mode Correction (RMC) speaker analyzer/analog EQ that allows you to tune your speaker's bass to almost any room. JBL also sent along a new subwoofer, the $1,499 LSR6312SP, which sports a 12-inch woofer/250 watt amp system and is said to reach down to 26 Hz.

The first thing you notice about the LSR 6328 is how modern looking it appears. It definitely looks state-of-the-art. The speaker contains an eight-inch carbon fiber composite active woofer (with JBL's patented dual voice coil Differential Drive technology) that is crossed over to a one-inch titanium composite tweeter that is integrated with JBL's Elliptical Oblate Spheroidal (EOS) wave guide that is said to ensure maximum dispersion in most studio environments.

A sixth-order 1.7 kHz Linkwitz-Riley crossover is used. The low-frequency driver is powered by a 250 watt Class AB discrete amplifier. The high-frequency power is handled by 120 watt Class AB amp, but is not discrete. (A more conventional amp-on-a-card design.)

All tone-tailoring and boundary compensation and level controls are rear-panel mounted. They include the power button, input trim, eight DIP switches (input trim activation, +4 dB input sensitivity, +8 dB input sensitivity, Very Low Frequency (VLF) protect, -1.5 dB low frequency attenuation and -3 dB low frequency rolloff attenuation boundary compensation (engaging both switches delivers a -4.5 dB attenuation), -1 dB high frequency attenuation cut above 2 kHz, and a +1 dB high frequency boost above 2 kHz.

The Room Mode Correction's manually-operated controls are also on the rear panel (width, frequency and depth) as are its activation, enable and bypass connections. Main input is via a Neutrik Combi balanced XLR/1/4-inch connector.

The necessary-to-operate RMC calibration kit came included with the subwoofer, but is free of charge when you order the LSR6328 P/Pak, which includes the speaker pair and the RMC kit. It can also be purchased separately.

The speaker design incorporates a rear-mounted port inside the amp cooling fins. Being Class AB the speaker does generate some heat, but never to the point of being too hot to touch. The 3/4-inch MDF cabinet measures 16 inches wide, 13 inches high and 12.8 inches deep. Weight is about 40 pounds, The handy carrying handles make transport much easier. The cool-looking graphite finish also give the LSR a modern touch.

JBL's 12-inch LSR6312SP powered subwoofer is an amazingly good performer that will kick clean bass out to 26 Hz and it is not that big or heavy. The LSR6328s can go down to 40 Hz with decent output, but the subwoofer allows deeper low-end reproduction for that 20 Hz to 40 Hz octave that comes into play with electronic music and surround LFE effects. Crossing over the low-bass duties to a sub also makes for a cleaner-sounding woofer reproduction of mid-bass to midrange frequencies.

### IN USE

Having heard several demos of the LSRs at a recent trade show, I could not wait to try them out in my studio. I set them up as main monitors in a closefield configuration. I mounted them on custom Apollo speaker stands with the speakers slightly toed in. Since the 6328s had impressive bass on their own, I decided to use them mostly without the sub.

I used a number of preamps to pass signal to the LSRs — including the Bel Canto Pre6 5.1 preamp (using two channels unbalanced), RE Designs SCPA-1 surround preamp (using two channels unbalanced) and a Legacy High Current preamp (using two channels balanced. Alpha Core Goertz balanced XLR cables were used with the balanced connection and Kimber Cable RCA cables with RCA-to-1/4-inch adaptors were used with the unbalanced preamps. I also used a Midas Venice 320 mixer as an analog source router.

Most of the audio came from high-resolution sources, including DVD-A and SACD. Sources included a Sony SCD-777ES- SACD player, an Integra 8.3/Universal SACD/DVD-A player, Alesis MasterLink and Panasonic RP91 DVD-A player. All PCM sources (16-bit, 44.1 kHz through 24-bit 192 kHz were digitally output through either a Bel Canto DAC-2 upsampling DAC or Benchmark Media DAC1 D/A converter. Source analog and digital interconnects were provided by Kimber Cable.

The speakers were placed in the center of the room on the Apollo stands. The speakers were about six feet apart and the listening distance was about five feet away. In my set up, I ran a room analysis of my room using the Room Mode Correction kit that came with the subwoofer. Since my room is rather long with hard concrete floor and a light carpet covering, I do not have much of a standing wave problem to correct at the closefield/midfield listening position. (There is some loading up at the far wall where far-field listening is done, but listening positioned was never used.)

I did want to witness the RMC in action so I purposely put them against the wall and moved my listening position to see if the bass would load up; it did peak with a maximum rise of +7 dB, according to the RMC measurements. After calculating the amount of EQ needed, I engaged the RMC and presto, the bloom was gone, thanks to the RMC's analog EQ. (***Check out the sidebar for full details of the RMC's operation.***)

After testing the RMC, I moved the room back to my normal setup distance. I first sampled a CD of various acoustic guitar cuts from my '73 Martin D-35 (recorded with Audix SCX-25s through The NightPro PreQ3 preamp). The audio was very real-sounding with a smooth, airy, open quality that reveals the nuance and harmonics of the aged guitar and bronze strings. Imaging was just as about as good as my Legacy Classic II monitors and the D-35's prominent bass was reproduced cleanly without artificial boom.

Next up was some high-resolution material — courtesy of Tom Jung and other SACD producers. First up was T.J.'s SACD production of percussionist Steve Davis' *Quality of Silence*. The impeccably recorded drum cymbals sounded incredible! The inner detail of the transients were there but never overly bright or harsh. Even at loud levels, the cymbals did not fatigue the ear.

I sampled another SACD, The Anthony Wilson Trio *Our Gang* (Groove Note). The live-to-two-track recording is a simple jazz trio: hollow-body guitar, drums and Hammond B-3 (how analog can you get?) — and man, did the JBLs shine. The Hammond B-3 sound envelopes you through the JBLs just as the recording does through speakers at three times the price.

I also found the LSR6328s equally adept at handling SACD classical recordings (strings, brass, woodwind) with the same silky smoothness. Piano from several recent Telarc classical SACDs and a demo DAT that was recorded by a local musician showed the LSR6328s to be first rate — no cabinet ringing or hollowness that lesser speakers deliver with the instrument.

A word about the tweeter; JBL's titanium composite tweeter is amazingly smooth compared to other metal dome tweeters I have heard. For a powered speaker, violins sounded about as smooth as I have ever heard. Ribbon-based systems from Legacy, Genelec and ADAM may be a touch smoother, but the ribbon models I have auditioned are more expensive than the LSRs.

I also have to say a word about JBLs biamp system. In my room, it provide as much level as I needed and it never got harsh or distorted. Since I am primarily a passive speaker/amp guy, I have to admit that powered speaker amps, such as the LSRs, are getting better and better.

In the pop genre, I listened to some mid-bass heavy, hip-hop music, which can sound terribly muddy on lesser speakers, but again, the JBLs handled the thumpin' bass lines just fine. Just amazing bass control from a woofer that is only eight inches. Of course, the sub added more low-frequency extension and is a necessity if you work with LFE effects, but I mostly used the LSRs without the sub.

Aurally, I found nothing to complain about the JBL system. The speakers are a tad heavy, with its sturdily built cabinet and a beefy amplifier, but the heft is not unreasonable. Besides, JBL included the built-in handles for easy transport.

The only real quibble would be a desire for a front-mounted power switch.

## Summary

In a nutshell, JBL is back. The new LSR series, powered closefield speaker is definitely one of the next-generation studio monitor lines to watch. At a reasonable price with studio-flattering looks, the LSR 6328 speaker sounds accurate with all kinds of audio. And its easy-to-use, room tailoring controls and the optional Room Mode Correction make it a system that can work just about anywhere. Since the speaker goes pretty low for an eight-inch woofer, the subwoofer is just gravy.

*John Gatski is publisher of* ***Pro Audio Review***.

## The ABCs of RMC

JBL's Room Mode Correction (RMC) is a handy, easy-to-use set of tools that allows for reduction of the effect of the standing waves that can make the sound boom and muddy. Some degree of standing waves are unavoidable in most rooms because of the boundaries, room size dimensions, etc. The effect of the standing waves can be controlled.

Built into the new line of LSR speakers, JBL's RMC processor is an all-analog - basically a cut-only EQ, with adjustable frequency, width and depth controls. The optional RMC kit includes a custom dB meter with 9V battery, a test tone CD, a frequency chart for plotting the results of the pre-RMC measurement, a tool for adjusting the speaker-mounted RMC controls, a width template for ascertaining the broadness of the peak (or dip), and a bypass remote control to audibly confirm the unequalized vs. the equalized or "corrected" sound. The bypass remote connects via a 1/4-inch connector cable, which unfortunately is not supplied with the kit. JBL does supply a Y-cable to allow the bypass switch to operate all speakers with RMC.

The manual is straightforward and offers excellent advice and techniques on how to "fit" the speaker into a room with the boundary controls on the LSRs as well as how to make the RMC measurements and adjustments.

The RMC is easy to use: pop in the test CD (make sure the RMC controls are disengaged), play track 1 to set the reference level to -7 dB on the dB meter, and then proceed to play the bass tones that descend in order — from 126 Hz to 20 Hz. Simply plot the dB level for each tone from the meter on the frequency chart. Once the tones are finished, draw a line to connect the dots. That is your bass response curve in your listening room.

If the line is within ±3 dB of the reference level at each frequency, your room is okay. If it is more, then you probably need some room correction.

The adjustment equation's key numbers include the peak's center frequency, the level in decibels (the difference from reference to the actual peak level), and the width of the peak. The latter is determined by placing the width template over the chart and matching the template curve to the peak. The peak's width value is assigned a percentage as figured from the template.

To make the RMC adjustments for correction, simply turn the width, center frequency and depth controls clockwise to the dial-designated positions figured from the chart in the instruction manual. The depth control attenuates in -1 dB steps to -14 dB. The frequency adjustment ranges from 24 Hz to 96 Hz.

After the adjustments are made, play the test tones again, and the peak should be reduced so that the audio sounds more natural when real audio is played.

Since the LSR6328 does not have as much lower frequency content below 40 Hz, JBL recommends using the LSR6312SP subwoofer (flat to 35 Hz and audible response even lower), which has its own RMC. The sub/main speakers can be adjusted in tandem with the sub's RMC. Using the LSR sub also allows RMC with other speakers.

— John Gatski