

BG Corporation R-600

Architectural Loudspeakers

Gary Altunian

Loudspeakers For The Critical Listener

The introduction of the BG Corporation Radia R-600 loudspeakers is great news for serious music and home theatre enthusiasts. The Radia Series is BG Corp.'s new line of architectural loudspeakers that incorporate the company's Planar Ribbon Drivers. They offer superb clarity and detail. I base that opinion partially on my recent experience with the BG R-800 loudspeakers, the larger flagship model. Like the R-800, the Radia R-600 uses BG's Neo10 Planar Ribbon Midrange Drivers and Neo3 Planar Ribbon Tweeters. In my opinion, they reproduce mid and high frequencies with detail, clarity, and transparency that is hard to surpass. The sound quality of the Neo Planar drivers is easy to appreciate with all genres of music. Simply stated, they radiate sound that is smooth, delicate, and easy to listen to, not aggressive. At all sound levels, subtle details are easily resolved, imaging is pinpoint, and clarity is crisp. The reason is simple: a planar ribbon driver has much less diaphragm mass than a typical dome or cone transducer, which improves transient response, and it is flat, as the term "planar" suggests. A flat membrane projects sound waves in a linear pattern, creating a very coherent sound quality over a broad range of frequencies, and the design virtually eliminates even miniscule amounts of distortion due to resonances and wave cancellation. The result is greater accuracy and excellent phase coherence. The Neo10 midrange planar drivers also have much greater surface area than a typical driver,

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about ten inches by five inches, which gives them the ability to move lots of air, and with four midrange planar drivers per loudspeaker, they can easily produce realistic SPL levels for movies and music. The 12 Neo3 planar tweeters, though smaller at two inches by three inches, produce comparable results in the higher frequencies (see sidebar on next page).

Planar drivers have been in use since the 1930s, and have been steadily improved over the years. Initially, they were plagued with reliability problems and were difficult to manufacture with consistent quality. Many efforts to resolve these problems have been attempted, and in the early 1990s, BG Corp. developed a new proprietary ribbon driver design with the same sound qualities but with greater output capability and improved reliability. BG Corp.'s Vice President of Engineering and resident audiophile, Igor Levitsky, has advanced the state-of-the-art with the BG Corp. Neo Planar Drivers.

In my memory, the best loudspeakers I had heard were eight (that's right, eight) KLH 9 electrostatic planar loudspeakers, four per channel. The KLH 9s are full-range loudspeakers (although deep bass is only possible with a subwoofer) with drivers that employ electrostatic planar technology. The experience was mesmerizing, a true audio nirvana, and established a benchmark for my appreciation of high-end audio. They are considered classic loudspeakers, well ahead of their time, although they were manufactured in the 1950s and are only available now from collectors (periodically they show up on eBay). The KLH 9s I heard were purchased in a pawn shop, mistaken by the shopkeeper for room dividers or screens. The subsequent owner had them reconditioned at considerable expense. Although they sounded incredibly good, they were very fussy loudspeakers;



SPECIFICATIONS

General

Three-way discrete line array in-wall system
 Woofer Section: eight-inch, dual-gap, long-throw woofers (2)
 Planar Ribbon Array: Neo10 Planar Midrange Panels in a vertical array (4); Neo3 Planar Ribbon Tweeters in a vertical array (12)
 Crossover: 250 Hz, 1.5 kHz, Linkwitz-Riley second order in acoustical domain
 Frequency Response: 50 Hz - 20 kHz (-6 dB, half space, in 3 cu. ft. closed volume)
 Sensitivity: 93 dB/2.83V/1m
 Rated Impedance: 4 ohms (2 kHz - 20 kHz), 26 ohms (250Hz - 2 kHz)
 Power handling: 500 watts RMS
 Warranty: Lifetime to the original owner

Dimensions (WHD In Inches): 62.1 x 11.6 x 3.7
 Wall Cut-Out Size (HW In Inches): 60.6 x 10.4
 Price: \$8,000 per pair

Manufactured In The USA By:

BG Corp.
 3535 Arrowhead Dr.
 Carson City, NV 89706 USA
 Email: info@bgcorp.com
 Phone: 775 884 1900
 Fax: 775 884 1276

difficult to drive with anything but the most stable electronics and were also sensitive to environmental conditions, such as heat, dust, etc. I have not enjoyed the same listening experience since, until listening to the BG Radia Series loudspeakers. The BG Radia loudspeakers are also free from the difficulties noted with the KLH 9s, and they are full-range and don't require a subwoofer. The BG Radia loudspeakers can also be driven with a broad range of good electronics and are relatively efficient with a sensitivity of 93dB/2.83V/1m.

The Radia R-600 is the little brother of the top model, though at 62 inches tall it is hardly small. But it's the height and the horizontal dispersion characteristics of the planar drivers that create its tall and wide sweet spot, excellent imaging, and broad soundstage. The Radia R-600s use four Neo10 Planar Midrange Drivers and 12 Planar Ribbon Tweeters in a line array pattern coupled with two dual-gap, long-throw passive eight-inch woofers to fill in the low frequencies.

Since the Radia R-600s are in-wall loudspeakers, proper installation is an important factor to consider, and to get the best performance from them, BG recommends that the wall cavity be tightly sealed and braced,



According to Igor Levitsky, Vice President of Engineering for BG Corp., two factors played a significant role in the development of the BG planar ribbon drivers:

- The emergence of Neodymium magnet materials
- The advancement of new polymer materials used in the diaphragms

Neodymium is a rare earth material with magnetic energy 20 to 30 times stronger than ceramic magnets used in previous ribbon driver designs. The use of Neodymium magnets allows the design of smaller devices with higher sensitivity, thus creating more output.

BG Corp. uses Teonex film for the diaphragms in the planar ribbon drivers, which has better thermal and mechanical properties than Mylar film used in earlier designs. Teonex, developed by DuPont™, is a stronger material that can withstand higher temperatures.

The combination of these two factors has contributed to planar ribbon drivers with higher power handling capacity, reduced distortion, greater sensitivity, and improved long-term reliability.

or that enclosures be built for them. With two eight-inch woofers, they are capable of tight, clean, and well-defined bass response if installed in a rigid, well-sealed wall or enclosure. I concur, and would recommend custom built enclosures for the best performance. Your installer can probably make some recommendations. Their depth is 3.5 inches, so they will fit in a standard residential wall or in a custom-built enclosure. They are secured with eight dogleg clamps and weigh 55 pounds each, so installing them is probably a two-person job.

The construction quality of the Radia R-600 loudspeakers is excellent, with a solid steel frame and a machined-black anodized aluminum baffle. The baffle is thick enough to be inert and is not subject to any resonance. The grille slides into a track on each side of the frame.

The Neo10 planar ribbon midrange drivers are crossed over at 250 Hz and the Neo3 planar ribbon tweeters are crossed over at 1.5 kHz, using a second-order Linkwitz-Riley crossover, a preferred design used frequently because it has a flat amplitude response between the different drivers and very smooth phase characteristics.

The BG Radia R-600 loudspeakers offer sound qualities very similar to the Radia R-800s, with outstanding definition and detail. Many audiophiles and product reviewers have opined about the delicate, open, and graceful sound quality of ribbon drivers, with good reason. They create midrange presence and high-frequency extension that is like being there live. Just close your eyes and you can see the performer in your mind's eye. Instruments and vocals seem to float in air, right in front of the listener. These are loudspeakers that you can listen to for hours on end with no listening fatigue. I know because I did.

Valerie Joyce's *New York Blue*, a typically well-recorded disc from Chesky Records, allows the listener to visualize the performance in the room, with excellent vocal clarity and a spacious soundstage presentation. Vocals and instrumentals are easily separated from one another, allowing you to single out any part of the music and focus on it.

Renee Fleming's "Haunted Heart" (Decca Records) from the disc of the same title, sounded equally live. In particular, the piano in this recording was stunningly real and sounded like the percussion instrument that it is. Renee's breathy voice unmistakably conveys her mood and emotion. The ability to easily separate different elements of each performance is one of the many strengths of this loudspeaker system.

Film sound and video concerts exhibited similar characteristics, with an enveloping sound field, exceptional dialogue clarity, and rich, full instrumentals. Elton John's *Dream Ticket*, a four-disc DVD set recorded in a wide variety of concert venues and spanning four decades brought out the best in each performance, even in recordings from the 1970s. Beware that the accuracy of the planar drivers reveals flaws in recordings and audio systems. These are probably good loudspeakers to use for evaluating different audio components; from control amplifiers, power amplifiers, and disc players—even interconnects and loudspeaker wires.

Summary

I highly recommend the BG Radia R-600 loudspeakers. Priced at \$8,000 per pair, they are clearly not for everyone, but if you're a critical listener, you should audition them. If you're not a critical listener, you'll

become one after listening to the Radia R-600s; it's a good way to improve your listening skills. They are sold exclusively by custom installers and system integrators, so you won't find them everywhere. If you're going to audition the Radia R-600s, take the time to listen to the Radia R-800s—they too are exceptional loudspeakers. Take your best discs with you, and be prepared for a treat. One of differences between the R-800 and R-600 is that the flagship model is a bi-wired loudspeaker with a separate digital amplifier (BGA-2500) for the two eight-inch woofers. However, despite the advantages of bi-wiring, the R-600s produce deep, well-defined bass that is very well balanced with the other drivers in the system. Either way, you're in for an audio delight.

In addition to their line of Architectural models, BG Corporation offers the Radia Series of Freestanding loudspeakers, which also feature planar ribbon drivers. Check out their Web site for more information. ■