

Test Bench

BY Mark Fleischmann

RSL 5.1 Theater Speaker System

PRICE: \$2,075 **AT A GLANCE:** Compression Guide Technology enclosure • Top-to-bottom ease and authority • Sub controls in separate remote-controlled box

California Dreamin'



Longtime readers know I often revisit the same manufacturers in loudspeaker reviews. I like to see how speaker lines from the same crucible evolve and grow. The downside is that returning to the same brands cheats me (and you) of new experiences. So for this review, I found myself placing a call to Howard Rodgers of RSL Speaker Systems. I dialed his West Coast number at 10 in the morning East Coast time with the intention of leaving a voicemail—only to roust him out of bed, to my surprise and embarrassment. He told me a little about the company and the 5.1-channel speaker package I was about to review.

Rodgers has been an

audiophile for 50 years, has been making speakers for 40 of them, and pioneered the practice of selling factory-direct. Roger-sound Labs was born in 1970 in a small North Hollywood, California, shop that included both factory and showroom. The operation soon grew to a chain of eight stores that sold both RSL speakers and other audio/video products. Google the company, and you'll find the Internet is full of people who bought RSL speakers and remember them fondly—and some of those old models are still in use. The founders sold the company in 1989, it was out of business by

RSL 5.1 THEATER SPEAKER SYSTEM
PERFORMANCE ★★★★★
BUILD QUALITY ★★★★★
VALUE ★★★★★

1992, and Rodgers subsequently bought back the name. But it wasn't until 2010 that some long-gestating product concepts lured him back into the speaker business.

It was home theater that inspired him. In the process of building a dedicated theater for his home—which he wrote about in our July 2010 issue—Rodgers developed prototypes for a new two-way, 4-inch

speaker and complementary sub using what he calls his Compression Guide Technology (CGT). Satisfied with how his inventions were faring at home, he resolved to bring the RSL 5.1 Theater System to a wider audience.

Same Ingredients, Different Dishes

The current RSL lineup includes a monitor, an LCR, and a subwoofer—all reviewed here—plus in-wall and in-ceiling speakers. RSL's 5.1 Theater Speaker System uses the CG4 monitor in the four corners of the soundfield, and the CG24 LCR serves as the center channel. In addition to this 5.1-channel package, RSL uses the same basic ingredients to form 7.2-channel, 7.1-channel, and 2.1-channel packages. For one-stop shopping convenience, the company's Website includes OmniMount stands and mounts as well as a 12-gauge, \$1/foot speaker cable. RSL offers a 30-day guarantee and free shipping. If you're not satisfied

• The CG4 monitor uses the same 1-inch silk-dome tweeter and 4-inch polypropylene-coned woofer as the CG24 LCR.



SPECS

SPEAKER:	CG4	CG24
TYPE:	Two-way, monitor	Two-way, center
TWEETER (SIZE IN INCHES, TYPE):	1, silk dome	1, silk dome
WOOFER (SIZE IN INCHES, TYPE):	4, polypropylene cone	4, polypropylene cone (2)
NOMINAL IMPEDANCE (OHMS):	8	4
RECOMMENDED AMP POWER (WATTS):	25-125	25-125
AVAILABLE FINISHES:	Gloss Black	Gloss Black
DIMENSIONS (W X H X D, INCHES):	6 x 10.5 x 6.38	6 x 16 x 6.38
WEIGHT (POUNDS):	9	13
PRICE:	\$250/each	\$325/each

and return the product, return shipping is also free. This company gives every sign that it believes in its products.

The CG4 monitor and CG24 LCR use the same 1-inch silk-dome tweeter and 4-inch polypropylene-coned woofer. This woofer has a cast-metal (as opposed to stamped metal or plastic) basket. The woofer is doubled in the LCR. There are gold hex-nut binding posts and OmniMount-size threaded inserts on the back of the gloss black enclosures. On the front are perforated metal grilles affixed with very powerful magnets—the grille practically flies out of your hand onto the baffle. The CG4 has a narrow slot-shaped port beneath the drivers, while the CG24 has a slot-shaped port on either side.

Compression Guide Technology is a big part of the RSL story. This train of thought began early in the company's history when Rodgers noticed how most loudspeakers reproduced the sound of a kick drum with a sloppy boom as opposed to a tight, percussive impact. He concluded that the internal resonance in the cabinet necessary to load the woofer degraded its transient response. He examined and rejected conventional design options, including sealed and traditional vented enclosures. Transmission-line designs came closest to his goal of disciplined bass, but he ended up following his own muse with a version of what's more generally referred to as a labyrinth enclosure. Here's how he describes his solution:

"Compression Guide is a simple design that divides the enclosure into three areas of higher and two areas of lower compression with a diagonal board inside the enclosure that extends fully side to side (but not the full height). As the rear wave

passes through these areas of varying volume and pressure, the audible effects of resonance are lessened. Eventually, the cabinet vents to the outside with a rectangular tuned passage, which is the same as a properly tuned bass reflex port."

Have you noticed the CG4's tweeter is on the bottom? Otherwise, says Rodgers, "the back of the woofer would be close to the diagonal Compression Guide board. Frequencies off the back of the woofer would reflect off the board and cause cancellation in the midrange, resulting in erratic response. It really doesn't matter whether the user decides to position the speaker with the woofer on top or bottom, other than the fact that our logo would be upside down, which wouldn't hurt our feelings too badly." The logo is pretty subtle—probably no one would notice. (Nonetheless, our audio technical editor Mark J. Peterson reports that any asymmetrical loudspeaker will exhibit a different response in either direction off axis of the asymmetry, so it could matter if the listener isn't seated directly on axis vertically.)

Rodgers says CGT brings three benefits, all of which he claims stem from the elimination of cabinet resonance. There's less bass overhang, which makes for more detailed low frequencies and a better blend between speakers and sub. The boxy coloration in the midrange that afflicts so many speakers is minimized. The woofer's transient response also improves, which improves overall imaging. Note that the crossover frequency is 2.5 kilohertz, which the small woofer is quite capable of operating up to. The manufacturer recommends a sub crossover of 90 to 100 hertz, partly to avoid the dominant system resonance in the

speakers, specified at 72 Hz for the CG4 and 68 Hz for the CG24. I set the sub crossover at 100 Hz in my A/V receiver.

A 375-watt RMS Class AB amp powers the Speedwoofer 10 subwoofer's front-firing 10-inch driver. The company bucked the trend somewhat in eschewing less costly Class D amplification. According to the background literature, "We tested many samples and found that no digital amplifier came close to the impact (we call it 'slam') of the Class AB amplifier we chose. So we spent the extra money."

The Speedwoofer 10 is one of the few subwoofers to break out of the controls-on-back mindset. Both volume and crossover frequency are located in a separate box that plugs into the back of the sub with Cat-5 Ethernet cable. You can use either the two huge knobs on the box or a four-button remote. This allows greater flexibility in placement. No matter where in the room the sub goes, the controls won't become inaccessible.

Associated equipment included a Rotel RSX-1550 A/V receiver, Oppo BDP-83SE universal disc player, Rega Planar 25 turntable, Shure M97xE cartridge, and Bellari VP530 vacuum tube phono preamp. All movie demos, as well as the first music demo, were on Blu-ray Discs with DTS-HD Master Audio soundtracks.

That's My Story

The RSL CG4 and CG24 made a gratifying first impression that never wavered as they journeyed through content with the unflappability of an experienced traveler. They were coherent from top to bottom, and the speakers reminded me of Colin Quinn's *Saturday Night Live* tagline: "That's my story, and I'm

stickin' to it." The balance among midbass, midrange, upper midrange, and high frequencies was everything I could hope for, with no peaks, notches, or colorations that I could easily detect with well-recorded voices and acoustic instruments. Upper harmonics were well developed and integrated with fundamental tones. Bass integration between the satellites and sub was seamless. The only obvious problem with perceived frequency response stemmed from my room's previously measured and persistent standing wave, which created a peak below the crossover, but that was no fault of the Speedwoofer 10. While I would like to have fixed this by applying equalization to the sub, my reference AVR doesn't do EQ, and RSL's manual recommends against it. The sub's performance was otherwise impressive, with high output levels and a tuneful way with musical instruments. The sub had an unusually warm and rounded tone—words not often used in connection with subs.

As *Repo Men* got under way, with Jude Law as a futuristic organ harvester whose blood-spattered job goes awry, the RSL system delivered the goods with as little listening fatigue as I've ever had with any high-resolution speakers delivering a noisy movie. Achieving the right balance between vocal clarity and dynamically challenging effects was a set-and-forget affair, and there were no gross flaws in the speakers' tonal distribution above the sub crossover. However, I did use the outboard volume control to tweak the sub. Although my initial test-tone settings were conservative, the glossy black cube's contribution to male voices was too obvious. I easily fixed this problem by lowering the level with the sub remote.

The medieval war epic *Ironclad* stars Paul Giamatti (playing against type) as raging English King John, who is trying to wiggle out of the Magna Carta. This movie gave the RSLs a chance to show off their imaging and dynamic prowess with unusual layering and panning effects in action scenes. *Ironclad*'s 13th-century battles

HT Labs Measures

RSL 5.1 THEATER SYSTEM SPEAKER SYSTEM

Satellite Sensitivity:
85 dB from 500 Hz to 2 kHz

Center Sensitivity:
87 dB from 500 Hz to 2 kHz

Visit our Website for a detailed explanation of our testing regimen, plus a list of our reference gear.

on the web

This graph shows the quasi-anechoic (employing close-miking of all woofers) frequency response of the CG4 satellites (purple trace), Speedwoofer 10 subwoofer (blue trace), and CG24 center channel (green trace). All passive loudspeakers were measured with grilles at a distance of 1 meter with a 2.83-volt input and scaled for display purposes.

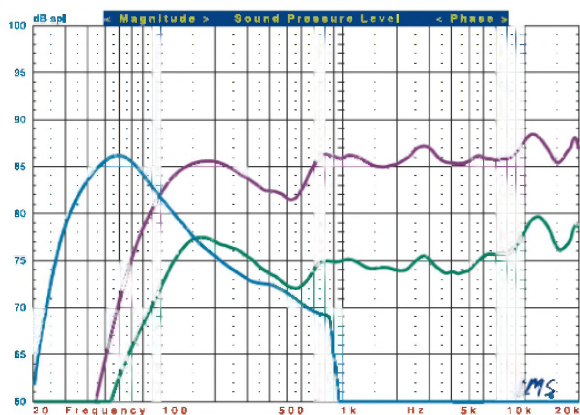
The CG4's listening-window response (a five-point average of axial and ± 15 -degree horizontal and

vertical responses) measures $+2.58/-4.38$ decibels from 200 hertz to 10 kilohertz. The -3 -dB point is at 106 Hz, and the -6 -dB point is at 87 Hz. Impedance reaches a minimum of 7.14 ohms at 263 Hz and a phase angle of -40.09 degrees at 3.3 kHz.

The CG24's listening-window response measures $+3.89/-2.00$ dB from 200 Hz to 10 kHz. An average of axial and ± 15 -degree horizontal responses measures $+4.11/-2.14$ dB from 200 Hz to 10 kHz. The -3 -dB point is at 94 Hz, and the -6 -dB point is at 79 Hz. Impedance reaches a minimum of 4.66 ohms at 230 Hz and a phase angle of -42.52 degrees at 3.4 kHz.

The Speedwoofer 10's close-miked response, normalized to the level at 80 Hz, indicates that the lower -3 -dB point is at 34 Hz and the -6 -dB point is at 30 Hz. The upper -3 -dB point is at 103 Hz using the LFE input.—MJP

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were rich in bloodcurdling cries, the clangor of swords on shields, and whizzing/thunking arrows. But these elements rose and fell like tides, sometimes suddenly diminishing to emphasize the sorrowing undercurrent of music, only to rush back in again. The speakers imaged these shifting elements strongly and with complete dynamic confidence. All this activity rioted across a soundfield that was large and un-speaker-bound.

Quentin Tarantino's *Jackie Brown* is studded with vintage soul music—and Johnny

Cash—and the RSLs mined these musical chestnuts for vocal warmth and vividness. One of the things I love about home theater is hearing what a good set of speakers can do for music originally mixed for car radio and then massaged for surround. But the bulk of the soundtrack is devoted to dialogue—in the Tarantino tradition, the film has numerous talky passages—and the CG24 excelled with a combination of intelligibility, naturalness, and freedom from midrange coloration. Eventually, it was Samuel L. Jackson's voice that dominated my attention,

perhaps because it was the one that most resembled a musical instrument. The balance of midbass, midrange, and upper midrange through the center speaker I spoke of earlier was at its most exquisite whenever the actor opened his mouth. It held up well off axis when I moved around the sofa. These speakers do not tyrannize the listener with a beamy sweet spot. They are family friendly.

Pastry Chef

Mahler's *Symphony No. 2* ("Resurrection") recorded at the Lucerne Festival with Claudio Abbado conducting the Lucerne Festival Orchestra arrived on Blu-ray Disc. This giant, over-the-top Viennese pastry of a work features the Orfeón Donostiarra chorus with vocal soloists Eteri Gvazava and Anna Larsson. The entry of Larsson's contralto provided the highlight of the listening sessions as it floated completely free of the speakers and took on all the tonal, dynamic, and spatial subtleties you'd expect in a great voice operating in a great concert hall with no intermediating electronics. It was hard to believe I was listening to loudspeakers driven by an amplifier. Strings and brass both had well-shaped dynamic envelopes and steady decay. Articulation of bowing could have been stronger—but speakers that pull off that trick often do so at the expense of overall comfort. The RSLs certainly had enough resolution to convey the swooning string vibrato that comes toward the end of the first movement as well as enough rhythmic momentum to reveal the

SPECS SPEEDWOOFER 10 SUBWOOFER

ENCLOSURE TYPE: Vented WOOFER (SIZE IN INCHES, TYPE): 10, paper cone RATED POWER (WATTS): 375, RMS CONNECTIONS: Speaker-level stereo in/out, line-level stereo in/out, LFE in, RCAs CROSSOVER BYPASS: LFE AVAILABLE FINISHES: Gloss Black DIMENSIONS (W X H X D, INCHES): 16.5 x 16.5 x 17.25 WEIGHT (POUNDS): 64 PRICE: \$750



second movement's percolating pizzicato. The decay of the first movement's final bass notes was impressively long and continuous, as though delivered by a good, full-range speaker, as opposed to this monitor-and-sub configuration. And when the last movement brought in pipe organ for its ecstatic finale, the sub kept its cool. The soundfield and objects within it were consistent—they didn't change shape or collapse at moderately high volumes or lose tone color at low volumes.

The *Ragged Kingdom* CD mates English folk chanteuse June Tabor with the folk-rock group Oysterband for their second partnership (and first in more than two decades). At RSL's request, I did all of my demos of two-channel material in 2.1. And so it was a pair of CG4s—not the now-silent CG24—that handled Tabor's alto. They remained faithful to the precision of her diction and the suppleness of her phrasing, and neither exaggerated or hid her faint huskiness. As a deliberate artistic decision, the band was somewhat compressed and soft focused relative to the vocals, although the resolution

of the CG4 kept it from turning to mush. This strategy pushed Tabor forward in the mix, paying double dividends when Oysterband's John Jones joined her for duets, two brightly colored objects against a pastel background.

The system continued to exhibit its sophistication and balance on Keith Jarrett's improvised piano music from the three-LP box simply titled *Concerts*, which was recorded in Bregenz, Austria, and Munich, Germany. Two CG4s reproduced the



The RSL 5.1's remote consists of four buttons.

instrument's rich harmonic signature in decent proportion, along with its percussive rhythm and the hall's spatial character. However, the midrange was hard and glassy, and I theorized that

this might have stemmed from the early-generation digital recording, circa 1982. For an analog reality check, I moved on to the Tokyo segment of Jarrett's 10-LP box set *Sun Bear Concerts* circa 1978. The hardness vanished, midrange tonality and imaging improved, and Jarrett's left-hand playing became more solid and accurately pitched.

At RSL's urging, I replaced the pair of CG4 monitors with a pair of the CG24 LCRs so the latter could enjoy its own *Sun Bear* solo demo. This made the soundstage a little more solid in the midbass, although the effect was subtle. The midrange and high frequencies didn't change

much—which didn't surprise me, since the CG4 and CG24 sounded very similar when I fed them pink-noise test tones for setup.

All Aboard

The RSL 5.1 Theater Speaker System is the audio equivalent of a high-speed train. It's a premium ride: smooth, pleasurable, hassle free, no annoying pat-downs. I fell in love with it from the first moments I listened to it. While I would have liked to see EQ or some form of standing-wave compensation added to the sub, I wouldn't regard the absence of it as a design flaw, especially now that most A/V receivers offer room correction. Being able to adjust the sub volume remotely, on the fly, at least let me nudge my room's bass hump one way or the other—sub level down for action movies, up for

music—which kept annoyances to a minimum.

Under our recently revised ratings system, a product can achieve a five-star performance rating only if it is "reference" quality. This speaker system handily qualifies: Indeed, I used it as my reference system while I reviewed new high-resolution multichannel disc releases from Pink Floyd and King Crimson (see our Perfect Focus section). It got the best out of everything I used to audition it. Wow, wow, and wow again. 🎧

* Audio editor Mark Fleischmann is also the author of the annually updated book *Practical Home Theater* (quietriverpress.com).

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(800) 905-5485 • rslspeakers.com
Dealer Locator Code RSL



• The sub's volume and crossover controls are located in a separate box.