

ROGIER VAN BAKEL

REL No.31

SUBWOOFER



I have a love-hate relationship with subwoofers. They tend to bring out my tweaky alter ego. Perhaps one of these sorry personae lives within you too: the perennially neurotic Mr. Hyde to your more obliging Dr. Jekyll. Hyde is the tense, never-satisfied fault-sniffer who zeroes in on sonic details that are perhaps slightly off, even when other people in the room are enjoying themselves. With subwoofers, he's at his worst. *Did you*

hear that?, he'll exclaim when he worries that a low bass note received too much emphasis. He nags and niggles that perhaps the integration between the main speakers and the subwoofer leaves a crater somewhere in the low-frequency band. He harps, not always believably, that he can hear where the subwoofer is, even though deep bass is supposed to be impossible to localize. Most of all, he barely lasts a song without getting twitchy about the

SPECIFICATIONS

Description Sealed subwoofer with a 12" carbon fiber cone long-throw driver. Stereo high-level Neutrik Speakon input and outputs. Stereo/LFE line-level on RCA and balanced XLR; XLR LFE and XLR line-level outputs. Stackable enclosure (with kit). Power:

900W class D. Frequency extension: 17Hz (-6dB).

Dimensions 17.1" H × 25.1" W × 28.3" D. Weight: 115lb.

Finish Piano-black lacquer.

Serial numbers of units reviewed NO31PP01122, NO31PP00822. Designed in the US and UK, assembled in

China.

Price \$7500. Approximate number of US dealers: 18 for the Reference series.

Warranty: Three years.

Manufacturer REL Acoustics Ltd., North Road, Bridgend Industrial Estate,

Bridgend CF313TP, Wales (UK). Tel +44 (0) 1656 768777.

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REL North America, 800 Addison St., Berkeley, CA 94710.

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sub's gain setting, imagining that he has to dial in exactly the right amount of deep-bass presence with each track.

This last tendency is probably the most common. I've seen it a hundred times with fellow audiophiles. Lots of rock recordings from the 1960s and '70s are bass-deficient and benefit from a modest boost below 60Hz. All good. But then we play something by Billie Eilish or Victor Wooten or Infected Mushroom, and the bass is suddenly too much—so we rush to dial it down. The setting usually stays in the ballpark when we listen to whole albums, but we'll have to remain vigilant with playlists that pull in songs from all over. *Was listening to music supposed to be this much work?*

But subwoofers can be wonderful, too. Many of us have experienced moments when a subwoofer made us grin with satisfaction, even excitement, and not just when we cue up movies like *Apollo 13* or *Mad Max: Fury Road*. The long-retired Velodyne F-1200 I owned in the late '90s thrilled me every time I played certain songs. That repertoire very much included Mighty Sam McClain's "Give It Up to Love"; the opening bass note by Mike Rivard punches hard and deep and can induce giddiness with the right setup.

When I eventually bought full-range reference speakers, I tried to tell myself that my subwoofer days were over. All the same, about four years ago, I happily auditioned (for another publication) two top-of-the-line SVS models. The SB16-Ultra, with a 16" driver, and the SB4000, with a 13.5" one, were placed along opposing walls and usually played simultaneously. Two active subwoofers rather than one can smooth out bass peaks and nulls that otherwise plague almost every room. They typically also widen the sweet spot. When the evaluation period ended, the SVS beasts had to be returned, as all review products do. They'd proved very satisfying overall, so I pouted a little when the freight truck drove them out of my life.

On the other hand, they were bulky as hell, and my wife and I were glad to reclaim some of the floor space in our living room.

Deep Impact, the sequel

After I began using my dedicated listening room, in early 2023, my hankering for high-quality subwoofers returned. Pinging REL Acoustics seemed like a good idea. There are other great subwoofer manufacturers, but REL—born in Britain but especially prominent in the US—is the brand that pops up more than any other when audiophiles talk about high-end subs. Owner John Hunter readily agreed to lend *Stereophile* a pair of REL's No.31 Reference models (\$7500 each). For my 21' x 15' space, the No.31, with a 12" carbon-fiber driver and a 900W class-D amp, seemed the ideal choice. REL's larger, louder top dog, the No.32 (\$10,000), which has a 15" driver powered by a 1000W amp, might be overkill for spaces under 400 square feet or so. The models are so named, by the way, because they were designed 31 and 32 years after the company's founding.

A few months later, two of REL's "setup artists," Jerrad Perkins and Clay Parker, delivered the 115lb subs to my home in Maine. The No.31s, cosseted in their gargantuan boxes, barely fit through the door. For most of that late-

July day, Clay acted as a speaker whisperer par excellence. First, he established a high-level stereo connection via two cables (one per subwoofer), which have a Neutrik Speakon connector on one end and stripped wires on the other. Clay connected the bare leads to the power amplifier's left- and right-channel speaker terminals so that the RELs would receive the same signal as the main speakers. He eventually separated my Focal Scala Utopia Evos by at least a foot and a half more than usual, so that each tower stood roughly 27" from the nearest sidewall. The beefy, beautifully finished REL subs, constructed of MDF up to 2.3" thick, are a good 27" wide, with curvilinear sidewalls that taper to a back panel about 19" wide.

They ended up in spots I wouldn't have predicted. The REL crew positioned them inside my main speakers—just to the right flank of the left tower and just to the left flank of the right one. After hours of careful listening and minuscule adjustments, the No.31s stood about 14" farther away from the listening position than the Scalas, some 1.5' from the wall behind them.¹

In another surprise, the REL team settled on a handoff point of 29Hz, well below the 60–80Hz ballpark commonly advised by other subwoofer manufacturers, even when used with low-bass-capable speakers.

I was intrigued. Why such a low crossover frequency? And why the symmetrical placement with both subs firing forward from the front? I'd imagined that the ol' subwoofer crawl²—or else acoustic measurements—would dictate that at least one of the subs would go against a sidewall, or perhaps even the wall behind me.

Hunter sent me the email equivalent of a confident shrug:³ "We don't rely on dogma. The setup artists learn how to hear musical cues that solve room issues. We think of bass differently than everyone else. Proper impulse response is critical to making great music. For that to occur, bass dynamics must be in phase with the main speakers—which is why we offer only 0° and 180° options—and your subwoofers must relate to your speakers. Many others

get caught up in sinewave-based analysis, which has essentially no correlation to any musical event I've ever attended. A kickdrum is pistonic; it explodes at you. You can't place that behind you and hope you won't notice such a disconnect."

By generally choosing low crossover points, REL again bucks convention—something Hunter clearly relishes. "For a subwoofer to blend properly with the main speakers, it must begin its rolloff well below the main speaker's useful output in that specific room.⁴ Say a speaker begins to roll off at 42Hz. Many would try to cross that over at 42Hz, but that would result in a noticeable peak right at that



¹ This meant that only their front 10" or so stood on the wool rug that covers most of my room. The remaining 18" of their depth rested on the oak floor. Clay opined this was "maybe not ideal." We considered pulling the rug a foot and a half toward the front wall, but this would've necessitated moving a heavy couch as well as lifting my equipment console. In the end, we left well enough alone.

² Read TJN's exploration of sub placement issues at bit.ly/TJNSubSetup.

³ Starting in the late '80s, Hunter, then at Sumiko, developed a speaker-setup technique he calls M.A.S.T.E.R.S. that REL uses to this day. The acronym stands for Modal Acoustics Simplified Training for Electronic Retail Specialists. Hunter says that more than 2000 people in the high-end industry have taken the course, which he taught with his then-partner, Stirling Traylor.

⁴ Apparently, Hunter is interested in bass extension, not bass reinforcement. Nuthin' wrong with that.

—Jim Austin

frequency. Our crossovers go as low as 20Hz, and while we don't often need to resort to crossing over that low, at a recent show we crossed over the left channel at 27Hz and the right one at 34." Visitors who heard the system described it as seamless, Hunter told me: "For subwoofers to not be the slow, plodding things they've mostly been for the past 40 years, we've designed them to be decidedly different."

For my listening room, Hunter says his staff chose a lower-than-expected crossover point to compensate for the gear closet on the right side of my room. The right-channel sub sat just a little over 2' from the closet door. Hunter theorizes that this positioning could make the closet a bass trap of sorts: "The door itself acts like a tympanic membrane, but bass has the ability to also penetrate through doors and become trapped." Given the absence of anomalous-sounding bass peaks or valleys, I didn't quibble.

Continuing its fondness for unconventional solutions, REL has also been pioneering "sixpacks" in recent years—six subwoofers, usually stacked in two towers of three. The cynic in me wants to view this as a cheeky ploy to move more product, but plenty of affluent REL customers insist that four subs are better than two and that six are the ultimate sonic upgrade.⁵ When Hunter and I first talked on the phone, he told me that sixpacks are king. "Bass doesn't just propagate along the floor. When a bass drum is concussive, you can't fake that from down here." (I imagined him pointing at the floor.) "We wanted to bring more vertical elevation to music reproduction."

Hearing is believing, so I'm neither knocking nor praising sixpack configurations for now. Sonics aside, I'll concede that a six-sub setup is visually impressive. It's a statement that says you're willing to go crazy in an alpha-male, rare-steak-and-two-fingers-of-bourbon sort of way. For the moment, though, I stuck with just two.

Bling for bassheads?

A few hours after the friendly REL men said their goodbyes, I watched *Hagazussa*, a German folk-horror movie whose slow opening theme is played on a cello backed by a rutting synthesizer tone (or maybe it's the same cello processed through an electronic doubler and pitched an octave down; it's hard to tell). The deepest note in the composition's eerie melody is G0, or 24.5Hz. I tried it first without the subs; disconnecting them takes only a quarter-degree turn of the twist-lock Speakon plugs. By themselves, my Focal Scala Utopia EVOs, which go down to 27Hz (-6dB at 24Hz), did an impressive job of boxing my ears with that earthy drone, but I sensed that they left a few dBs on the table. Once I turned the No.31s back on, the bottom note of the motif was not only louder; I felt it more, both physically and emotionally. Its thrum was more fleshed out and menacing.

But the No.31s' primary duty wasn't as home theater add-ons or film-score enhancers. Their main function in my system was to augment music of various kinds. So, to business.

The first bass note on Bob Dylan's "The Man in the Long Black Coat," from *Oh Mercy* (24/96, Columbia/Qobuz), hit hard, with more foundational energy than the Scalas are capable of on their own. It



didn't sound deeper so much as bigger and more solid.

It seemed likely that I would love the RELs with bass-heavy music, and I did. Two of my favorite LFE tracks, Hedegaard's "Ratchets" (24/44.1 FLAC, one-hundred/Qobuz) and "Planners and Thinkers" by Metropolis, off the soundtrack by the same name (16/44.1 FLAC, Soundtrack Classics/Tidal), were slamfests that reminded me of the observation "bass is to music what blood pressure is to the body." Or as Casey Miller put it in a lovely *Stereophile* column⁶ from a couple of years ago, "We experience sound through our bodies and not our ears alone." True dat.

But the RELs are far more than bling for bassheads. They

had a noticeable effect on midrange reproduction, too. Cellos and the bottom-half octaves of a well-recorded organ or grand piano gained solidity and body. So did snares, horns, and most guitars.

I noticed that spatial cues had become a bit easier to glean. Then I thought I imagined it—until a visiting friend commented on this too, with no prodding from me. We also heard a boost in transparency—subtle, yes, but hard to miss once we'd homed in on it.

Fascinated, I threw more non-bassy fare at the RELs. A year ago, Ganavya, a mononym for a remarkable New York-born, India-raised songstress, released a stunner of an album: *Like the Sky I've Been Too Quiet* (24/44.1 FLAC, Native Rebel/Qobuz). A highlight is "El Kebda, Let It Go," which features a sparse double bass, a transverse ethnic flute called a venu or pullangulal, and the Carnatic scales of South Indian music. There's something seductively dreamy yet primeval about the track. The No.31s increased the clarity of this slightly dark and veiled recording. A few nights later, they gave a sweet polish to an old symphonic rock standby: With the subs engaged, Tony Banks' dazzling piano intro on "Firth of Fifth" by Genesis, from *Selling England by the Pound* (16/44.1 FLAC, Rhino Atlantic/Qobuz), somehow sounded airier and more spacious.

On "St. Thomas," off *Saxophone Colossus* (16/44.1 FLAC, Milestone/Qobuz), Sonny Rollins's saxophone took on extra palpability with the RELs in the system. I could better hear his breath pushing through the reed, preceding the brassy shimmer of each note as it left the bell.

Next, I cued up Lead Belly's "The Gallis Pole," from *The Smithsonian Folkways Collection* (16/44.1 FLAC, Folkways/Qobuz). His guitar has a big body, and you can sense its size even on this recording from 86 years ago. Although the blues icon usually tuned his guitar about five semitones lower than the standard E-E, "Gallis Pole" has no deep-bass frequencies to speak of—and still the No.31s added flair and authenticity to the sound.

In my review of Focal's outstanding Maestro speakers,⁷ I mentioned *Concerto for Two Pianos*, a Bryce Dessner composition performed by Katia and Marielle Labèque (24/96 FLAC, Decca/Qobuz). If I may quote myself, "The percussive and tonal qualities of the grand piano strings were corporeal, full of energy, verve, and solidity." That's how it was all over again. The RELs made it

⁵ Then again, why stop at six?—Jim Austin

⁶ See stereophile.com/content/why-not-listen-everything.

⁷ See stereophile.com/content/focal-maestro-utopia-evo-loudspeaker.

seem as if the Maestros were back in my listening room, magnifying the Scalas' best traits.

Is there anything on the facing page of the ledger, under the "gripes and minuses" column? Not sonically. Ergonomically, different story. REL doesn't offer smartphone/tablet control, preferring an analog approach without DSP. The 31s come with a weighty, circular remote, its knobs and switches labeled with tiny, hard-to-read letters on a two-tone carbon background. The clunky clicker is very directional and won't send requests to the sub unless you point it straight at the front panel. (To be fair, this may be a plus when you have two subs and you want to adjust them one at a time.) I also had a hard time with the readout on the No.31's front display, at least when the Sonus faber-esque string grilles were in place. Those black rubber cords, each about as thick as the E string of a bass guitar, often obscured segments of the white LCD characters.

The bottom (and I do mean bottom) line

"REL" stands for company founder Richard Edmund Lord, but it could also mean Really Exceptional Lows, or Roomshaking Effortless Luxe. I'd expected the two No.31 subs to bring increased force to the lowest reaches of my system's performance, and they did that, unflappably. But the RELs also imbued the midrange with an extra dollop of clarity that you might not expect from what most of us regard as an LFE augments. In some music, they increased air.

The two SVS top-of-the-line subwoofers I had in my system in 2021 left a similar impression, but the positive effect was more pronounced with the RELs—as well it should be, since they're more than three times the price. The graceful, curved No.31s are also more attractive by a mile. Cube-shaped competitors look brutalist and uninspired by comparison.

In my native Dutch, the word *rel* means riot, and the No.31s

ASSOCIATED EQUIPMENT

Digital sources 15" MacBook Air M2 Max running Roon 2.0; Lenovo ThinkCentre running Roon ROCK; Eversolo DMP-A8; Grimm Audio MU1; Aurender A20.

Preamplifiers Benchmark HPA4 line stage; Eversolo DMP-A8.

Power amplifiers Krell FPB 200c (recapped); Audia Flight FLS10 integrated; PrimaLuna EVO 400 integrated.

Loudspeakers Focal Utopia Scala EVO; Estelon X Diamond MkII.

Cables Speaker: AudioQuest Thunderbird Zero and Bass. Power and interconnect: RSX and Clarus Crimson pure copper OCC power cables; AudioQuest WEL Signature AES3, Coffee coax and Vodka TosLink; Clarus Crimson XLR.

Accessories Townshend Seismic Podiums; AudioQuest PowerQuest PQ-707 power conditioner; Puron and Nordost plug-in AC enhancers.

Listening room Custom-built 21' × 15' with 10' walls and a 16' gabled ceiling; total volume around 4000 cubic feet. Extra-thick drywall over Rockwool and mass-loaded vinyl. Hardwood floor over plywood, rubber, gravel, and concrete. 12' × 15' wool rug on a thick felt pad. Acoustic treatments include four bass traps, two skyline diffusers, and 12 absorption panels including four clouds.—Rogier van Bakel

were indeed a riot to have in my system. Nimble and musical, they excelled at both power and subtlety. If you have the budget, the space, and the inclination, the RELs make a compelling case for a serious audition. ■



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