

Equipment Report

Robert J. Reina

Alón by Acarian Systems Li'l Rascal Mk.II loudspeaker

Since 1991, Acarian Systems' Carl Marchisotto has brought home the bacon by focusing most of his efforts on conventional dynamic, three-way, floorstanding designs in the \$2000–\$7000/pair range—28 different loudspeaker designs in 12 years, 13 of them still in production. That's why Home Entertainment 2001 showgoers who were familiar with previous Alón efforts were taken aback when Marchisotto unveiled a new flagship for his Alón speaker line: the Exotica Grand Reference, a \$120,000 line-source ribbon/dynamic hybrid system comprising four 7' towers. For those attracted to cost-no-object designs, the debut of the Exotica Grand Reference was quite a spectacle.

My tastes—and those of my bank account and my wife's decorator—still run in the direction of three-way dynamic systems, however. Still, I'm a fan of certain Alón products; I own pairs of the Circe (\$12,000/pair) and Alón's original bookshelf design, the Petite (\$1000/pair, before being dropped from the line several years ago). But none of the Alóns I've owned or reviewed over the years could come close to approaching the dynamic realism of the Exotica Grand References at Home Entertainment 2001. From the subtlest pianissimos to fortissimo blasts, the music ebbed and flowed continuously, as it does in a live performance.

A conversation with Marchisotto revealed that the dynamic magic I was hearing at HE2001 stemmed largely



Alón Li'l Rascal Mk.II loudspeaker

from Alón's new proprietary crossover topology, employed only in the Exotica. He was uncharacteristically secretive about this "magic black crossover box," which intrigued me even more. Since that launch two years ago, Marchisotto has trickled down this crossover topology to other designs, and now every Alón speaker in the \$4000–\$12,000/pair range includes the new technology.

What does all this bumpf have to do with all the tea in China—or, more to the point, my quest for the ultimate budget speaker? Well, two years before that show, in 1999, Alón had launched its first sub-\$1000 two-channel speaker, the Li'l Rascal, a \$500/pair bookshelf design. I'd been approached to review it, but had declined—my dance card was already full. Early this year, Marchisotto called me again: "We've incorporated the Exotica Grand Reference crossover topology in a new version of the Li'l Rascal, which I think you'll like better than your Petites.

But we had to raise the price to 600 bucks."

Mr. Marchisotto, you've captured my attention.

The Design

The Alón Li'l Rascal Mk.II is a two-way minimonitor with its magnetically shielded drivers mounted in a front-ported 16-liter enclosure. The 6.5" bass/midrange driver uses a paper cone treated with a proprietary layer. The high frequencies are handled by a 1" silk-dome tweeter. The crossover features air-core linear inductors, polypropylene capacitors, and hand-wired circuit boards. The Mk.II's

drivers are unchanged from the original design; the upgrade comprises the proprietary crossover topology. When I pressed Marchisotto a third time for more details about the crossover, he replied, "I don't gotta show no leg."

The Rascal Mk.II's MDF cabinet has rounded corners to optimize diffraction. Other colors besides the standard black, which is attractive but not imposing, are available on special order. I tested the speakers using metal Celestion Si stands loaded with lead shot and sand. Although Acarian Systems recommends using the Li'l Rascals with their grilles removed, I tested them both ways. Leaving the grilles on resulted in slightly reduced detail and transparency but no change in tonal balance.

The Listening

I fired up the Li'l Rascals, wondering if I'd catch a glimpse of the dynamic performance I'd heard from the Exotica

Description: Two-way, reflex-loaded, stand-mounted, magnetically shielded loudspeaker. Drive-units: 1" silk-dome tweeter, 6.5" paper-cone woofer. Frequency range: 55Hz–20kHz. Impedance: 8 ohms nominal, 6 ohms minimum. Sensitivity: 88dB/W/m.

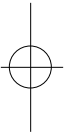
Dimensions: 15.5" H by 8.25" W by 11.75" D. Weight: 14 lbs each.

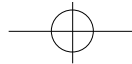
Finishes: Black; other finishes on request.

Serial numbers of units reviewed: 0757, 0760.

Price: \$595/pair. Approximate number of dealers: 50.

Manufacturer: Acarian Systems, Ltd., Hunters Run, Suite 104, 181 Smithtown Blvd., Nesconset, NY 11767. Tel: (631) 265-9577. Fax: (631) 265-9560. Web: www.alonbyacarian.com.





Alón Li'l Rascal Mk.II

Grand References at HE2001. After the first listening session, I was convinced that I had, as the Rascal had three strengths unusual in a bookshelf speaker of this size and price: 1) lifelike dynamic contrasts, from the subtlest soft passages through the most bombastic fortissimos; 2) detail resolution, transparency, and natural transient articulation akin to what I'd expect from a more expensive speaker; and 3) a linear and uncolored mid/upper bass region realistic not only in timbre, but also in its ability to breathe and bloom as live music does.

But such accolades would be meaningless if the Rascal didn't get the mid-range right, which it did. Robert Taub's interpretation of Milton Babbitt's *Piano Works* (CD, Harmonia Mundi HMC 5160) puts the piano through a wide

range of tonal and dynamic colors. With the Li'l Rascal, I was drawn to Taub's virtuosic playing in the lower middle register of the instrument, and was able to follow his signature bombastic yet delicate style on his rich and resonant instrument. I have never heard this region of the piano keyboard reproduced more naturally by a small speaker.

Similarly, male and female vocals were naturally portrayed and with great dimensional body. Madeline Peyroux's highly individualistic channeling of Billie Holiday on "Hey Sweet Man," from *Dreamland* (CD, Atlantic 82946-2), was rich, resonant, and uncolored, the Rascal revealing every subtlety of her phrasing. I did, however, notice that sibilants were rather prominent on this recording.

After auditioning a wide range of program material, I concluded that the Rascal had a crisp presentation of frequencies in the upper-midrange/lower-high-frequency range that tended to highlight instruments with significant energy in this region. It wasn't a brightness, harshness, or brittleness, but certain instruments, such as Fender Stratocasters (Mighty Sam McClain's *Give It Up to Love* CD, JVC JVCXR 0012-2) or dobros (Mark Ribot's work on the Peyroux disc), sounded as if they'd been turned up a jot in the mix. Vocalists such as Peyroux, although sounding natural, appeared to have been very closely miked. The crispness in this range was more noticeable with my Creek 5350SE integrated amplifier than with my Audio Valve/Audio Research tube combo.

Measurements

The Alón Li'l Rascal Mk.II's voltage sensitivity was very slightly higher than specified, at 89dB(B)/2.83V/m, which is also 2dB above the average I found in my 1999 articles on speaker measurements. Its plot of impedance magnitude and phase (fig.1) revealed

it to be an easy load for the partnering amplifier to drive, its impedance dropping below 8 ohms only in the lower midrange. Both sensitivity and impedance values indicate that the Rascal would be a good match for the inexpensive amplifiers with which it is likely to be used.

However, a glitch in the impedance traces at 230Hz implies the existence of a cabinet resonance of some kind at this frequency. Fig.2, a cumulative spectral-decay plot calculated from the output of an accelerometer fastened to the center of the speaker's side wall, shows that not only does a very strong resonance exist at this frequency, but so does an even stronger one at 360Hz. I could detect the

higher-frequency resonance only on the sidewall, the lower-frequency one on every surface. I'm puzzled that BJR was not bothered by any lower-midrange congestion that could result from these resonant modes. They were very audible when I listened to the cabinet-wall output with a stethoscope.

The saddle at 44Hz in the impedance-magnitude trace suggests that this is the tuning frequency of the 2"-diameter reflex port on the front panel. However, the corresponding minimum in the woofer's response (fig.3, red trace) occurs a little lower in frequency, at 40Hz, while the maximum in the port's output (blue) is higher, between 60Hz and 80Hz. However, the complex sum of the two nearfield

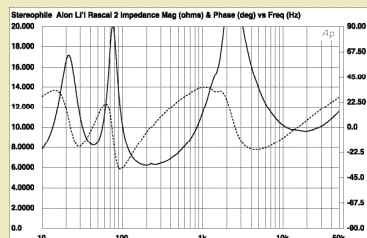


Fig.1 Alón Li'l Rascal Mk.II, electrical impedance (solid) and phase (dashed). (2 ohms/vertical div.)

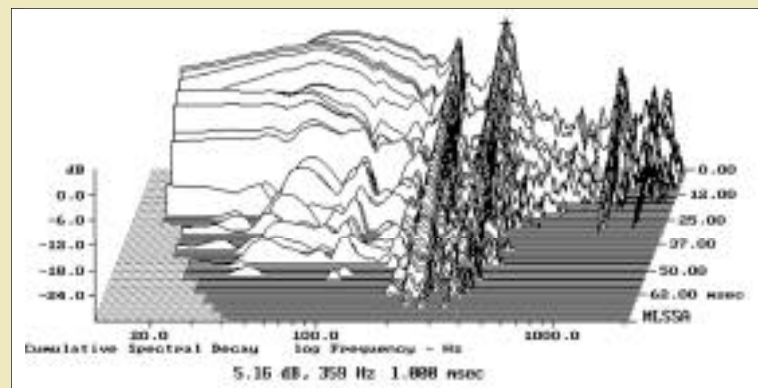


Fig.2 Alón Li'l Rascal Mk.II, cumulative spectral-decay plot calculated from the output of an accelerometer fastened to the cabinet's side panel. (MLS driving voltage to speaker, 7.55V; measurement bandwidth, 2kHz.)

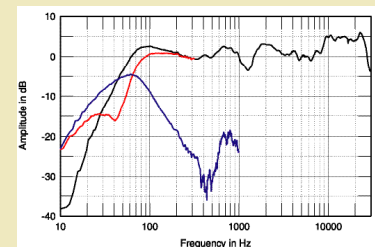
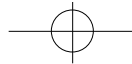


Fig.3 Alón Li'l Rascal Mk.II, anechoic response on tweeter axis at 50°, averaged across 30° horizontal window and corrected for microphone response, with the nearfield responses of the woofer (red) and port (blue) and their complex sum (black) below 300Hz, 1kHz, and 300Hz, respectively.



Alón Li'l Rascal Mk.II

This tonal crispness didn't otherwise detract from the Li'l Rascal's extended and natural high-frequency performance. Classical violins and the upper partials of woodwinds were extended, natural, and airy. In particular, I was smitten by the Rascal's performance of percussive high frequencies. George Crumb's chamber works make considerable use of cymbals, bells, and unorthodox percussion, and I found myself following each cymbal attack and decay in *Night Music* (Candide 31113). Crumb's scores often incorporate long silences, and long decays of the sounds of solo instruments; the combination of the Rascal's high-frequency transient articulation and its rendition of ambience and room sound added to the realism of such moments.

On the opposite end of the frequency spectrum, rock and jazz fans should appreciate the Li'l Rascal's rendering of acoustic and electric basses. Although the Rascal was natural and uncolored in the reproduction of all strung bass instruments, I was most impressed by the uniformly dynamic bloom throughout the midbass region. Through most budget bookshelf speakers I've auditioned, bass guitar descending into the lower register tends to sound compressed and dynamically constrained. Not so through the Rascal. Gary Wilson's Fender bass on "When You Walk Into My Dreams," from *You Think You Really Know Me* (CD, Motel MRCD007), traverses the entire range of the instrument. Each note was uniform in timbre, attack, and presence on the Alón.

Similarly, classical fans will appreciate the Li'l Rascal's rendition of bass drums (Stravinsky, *The Firebird*, Mercury 90226) and timpani (Kohjiba, *Transmigration of the Soul*, from *Festival*, Stereo-ophile STPH007-2). These were tuneful and natural, and about as dramatic as I've heard from a bookshelf speaker. Don't expect much bottom octave, however—the lower organ-pedal notes in John Rutter's *Requiem* (CD, Reference RR57-CD), although uncolored, were significantly down in volume and didn't shake the room much. But I'll be interested to see John Atkinson's measurements on the Rascal's low-frequency extension—aside from the organ-pedal recording, the Rascal never once sounded bass-shy.

Well-recorded works, as on the Stra-

Measurements

responses (black) is -6dB at 44Hz , of the four-string bass guitar and double-bass. Note that all of these

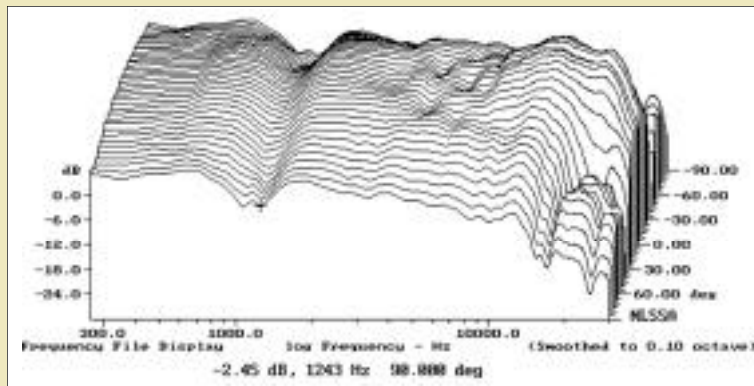


Fig.4 Alón Li'l Rascal Mk.II, lateral response family at 50° on tweeter axis, from back to front: responses 90° – 5° off-axis, reference response, responses 5° – 90° off-axis.

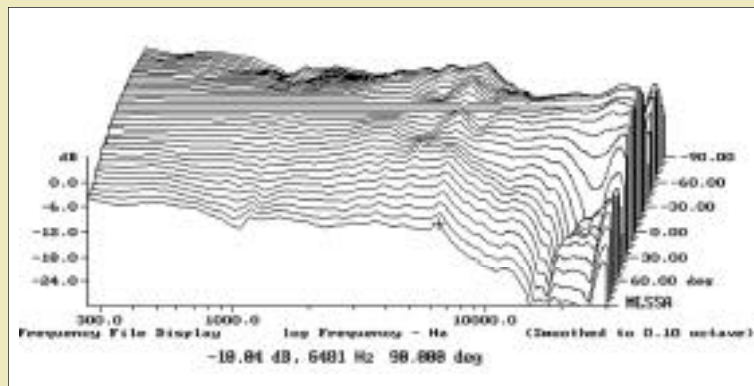
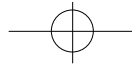


Fig.5 Alón Li'l Rascal Mk.II, lateral response family at 50° , normalized to response on tweeter axis, from back to front: differences in response 90° – 5° off-axis, reference response, differences in response 5° – 90° off-axis.

low-frequency traces are affected by the nearfield measurement technique, which assumes a half-space acoustic environment. This boosts the level of the traces by 3dB below 200Hz or so, which means the Li'l Rascal's absolute LF extension will be a little more restricted. However, it is fair to note that BJR felt the speaker offered good in-room extension for its size.

Higher in frequency, there is a small peak in the port's output between 600Hz and 800Hz , which coincides with a small peak in the Rascal's farfield response. Note the notch just above 1kHz , which coincides in frequency with a discontinuity in the impedance traces, with then another small peak. These, along with the shelved-down lower mids, might contribute to BJR's finding the speaker to have a "crisp presentation." The top audio octave is boosted by 5dB , which, all things being equal, correlates with BJR's finding the Li'l Rascal to exaggerate vocal sibilance.

Of course, all things are never equal. The Li'l Rascal's horizontal dispersion plots (fig.4, actual responses; fig.5, differences in response) show that the tweeter's output falls off rapidly above 11kHz at more than 20° to the speaker's sides. In larger rooms, this will tend to offset the Rascal's shelved-up on-axis response, but the region between 8kHz and 11kHz will still be tipped up in absolute terms.



vinsky and *Festival* CDs, demonstrated the Rascals' resolution of detail and depiction of precise dimensional images on a wide, deep stage. Furthermore, the Rascal's ability to delineate hall sound and reproduce wide dynamic swings might make it the ideal speaker for the orchestral music fan with limited money and space. I did note, however, that on the Stravinsky, the trombones and trumpets had a slight "blatty" quality that might be related to the Rascal's crisp upper-midrange/high-frequency reproduction.

Fans of rock music will appreciate the Rascal's ability to follow separate instruments in electronic mixes. On "2," from Café Tacuba's *Reves/Yosoy* (CD, Luaka

Bop 47574-2), I was amazed at the wide timbral and dynamic colors the composers extracted from the bass synthesizers and drum machines that dominate this mix. Listening to "How Am I Different?," from Aimee Mann's *Bachelor No.2 or The Last Remains of the Dodo* (CD, Super Ego SE002), I imagined myself as the recording engineer, analyzing each fade, EQ, and compression of the instruments, thinking, "How Would I Have Mixed Different?"

The Rascal shone best as a jazz speaker. On "I'm an Old Cowhand," from Sonny Rollins' *Way Out West* (CD, JVC VIC 160088), Rollins' tenor sax was natural and vibrant—but I found my-

self ignoring everything but the drums. I was analyzing Shelley Manne's wonderful clip-clop syncopation throughout the head, and following every subtle dynamic inflection of the uncolored snare and ride cymbal during his solo. I then began seeking out other drum-solo recordings to hear through the Rascals, but couldn't find my copy of *The Sheffield Drum Record*—I'll need to borrow Art Dudley's copy.

The Others

I compared the Li'l Rascal Mk.II with the usual suspects: the Paradigm Atom (\$189/pair), the Polk RT25i (discontinued, \$319/pair, when last offered), the

Measurements

Note that in fig.4, the suckout between 1kHz and 2kHz persists at all off-axis angles. A week or so after I had measured the speaker and shipped it back, I received an e-mail from Alón's Carl Marchisotto saying that the Rascal was intended to be listened to, not on the tweeter axis, but halfway between the tweeter and woofer. The speaker's vertical-dispersion plot (fig.6) does indicate that the suckout begins to fill in 5° below the tweeter axis. However, it doesn't do so completely until the listening axis is actually below the woofer. It deepens even further above the tweeter; the Li'l Rascal should be used on high stands. The 24" stands used by BJR imply a low listening seat that places the listener's ears around 32" from

the floor, unless the speaker is tilted back slightly.

In the time domain, the step response on the tweeter axis (fig.7) reveals the HF unit to be connected in inverted acoustic polarity, its positive-going overshoot almost coinciding with the woofer's positive-going step. The small glitch just past the timeline in what would have otherwise been a smooth curve indicates that Carl Marchisotto was correct: the best integration between the two units will occur just below the tweeter axis. But there is also a strong reflection apparent about 450 μ s after the main arrival. This is just the right delay to give the interference suckout noted in the frequency-domain measurements.

Finally, the Li'l Rascal Mk.II's cumulative spectral-decay plot (fig.8)

is very clean throughout the tweeter region. The on-axis notch above 1kHz is associated with delayed energy, which ties in with the strong reflection seen in fig.7. Overall, the Alón's measured performance is about average—not bad, considering its low price.

—John Atkinson

Measurements Postscript

When I received the Li'l Rascal samples back from Bob Reina, now sporting thin felt rings around their tweeters, I didn't expect to find much measurable difference. I was wrong, however. The blue trace in fig.9 shows the speaker's quasi-anechoic response above 300Hz without the felt ring (it's the same curve shown in fig.3). The red trace is the same sample but now with the felt ring; the black trace (offset by 5dB for clarity) shows the difference between the two responses. (Ignore the ripples below 2kHz in the difference plot,

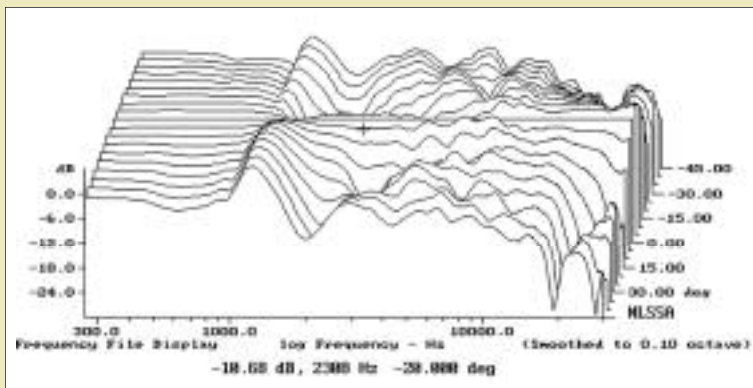


Fig.6 Alón Li'l Rascal Mk.II, vertical response family at 50°, normalized to response on tweeter axis, from back to front: differences in response 45°–5° above axis, reference response, differences in response 5°–45° below axis.

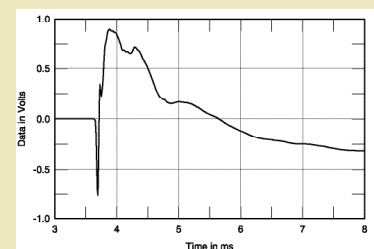
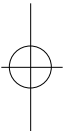
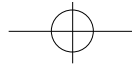


Fig.7 Alón Li'l Rascal Mk.II, step response on tweeter axis at 50° (5ms time window, 30kHz bandwidth).





Alón Li'l Rascal Mk.II

NHT SB3 (\$600/pair), and the Alón Petite (\$1000/pair, discontinued).

First up was the nearest price competition, the NHT SB3. The NHT had a more liquid presentation than the Rascal, with a silky midrange and smoother but less detailed highs. The dynamics were excellent but not in the Rascal's league, and the high frequencies were less airy. The midbass was also slightly warmer. On balance, the NHT SB3 was slightly more romantic, more polite, and less revealing than the Rascal.

On the lower end of the price range, the Polk RT25i was impressive in its midrange and resolution of high-frequency detail, and was very natural and

intimate in its overall presentation. Vocals were not as sibilant as on the Rascal, nor were they quite as dimensional or involving. Although the Polk's midbass region was uncolored, its bass extension and high-level dynamic performance were far inferior to the Rascal's.

Further down the price ladder, the Paradigm Atom was smooth and fairly uncolored throughout its range, but with fairly good detail resolution and dynamic performance. High-level dynamics were the least impressive of the group, with high frequencies that were not as extended or as airy as the Li'l Rascal's. But remember—the Atom costs less than a third as much as the Rascal.

The "final answer" question for me was "Does Alón's \$595/pair Li'l Rascal Mk.II outperform their \$1000/pair Petite?" Overall, the Alón Petite was uncolored, with detail resolution, transparency, and low-level dynamic articulation that equaled the Rascal's. The Rascal had far superior high-level dynamic capabilities, as well as more extended and dramatic midbass performance. On balance, however, I found the Petite's HF presentation to be more delicate, articulate, and sophisticated. One should keep in mind that, although the Petite design is nearly a decade old, it has the same tweeter as the original Alón IV (\$3500/pair).

which are due to the slightly but unavoidably different FFT windows used for the two sets of measurements.)

Despite its thinness, the felt ring has improved the speaker's treble balance, in that it is smoother, just as Carl Marchisotto claims. While the top octave is still "hot" in absolute terms, the region above 7kHz now has a little less energy, while the mid-treble has been reinforced by 1–2dB. Both of these correlate with BJR's finding that the speaker now had a more satisfying balance.

It is important to note that the rings are way too thin and of the wrong texture to provide any damping action. What they do is to change the speaker's dispersion, pushing more or less energy off-axis to smoothen the on-axis behavior. This can be seen in fig.10, which shows the revised speaker's lateral radiation pat-

tern. Comparing this graph with fig.5, it can be seen that the overall dispersion with the tweeter ring is smoother overall, wider above 7kHz, and no longer has the off-axis "horns"

at 6.5kHz.

I echo Bob Reina's recommendation, that owners of early Rascals upgrade their speakers with the tweeter rings. —John Atkinson

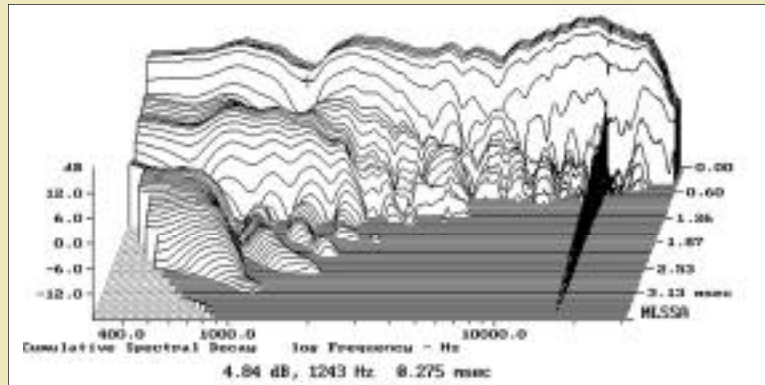


Fig.8 Alón Li'l Rascal Mk.II, cumulative spectral-decay plot at 50° (0.15ms risetime).

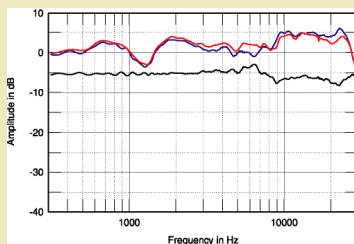


Fig.9 Alón Li'l Rascal Mk.II, anechoic response on tweeter axis at 50°, averaged across 30° horizontal window and corrected for microphone response, without (blue) and with tweeter diffraction ring (red), and the difference between them (black).

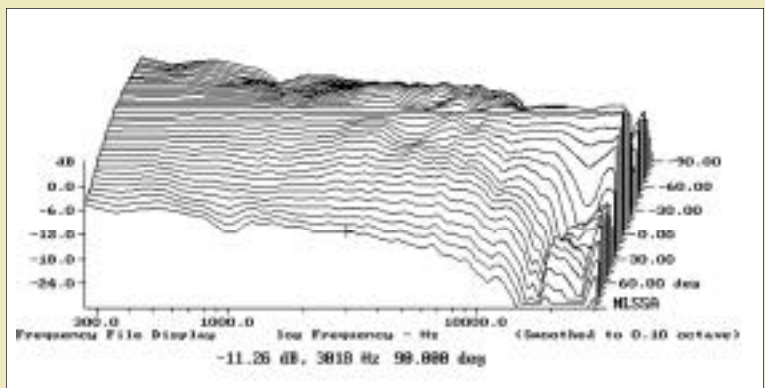
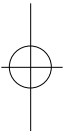
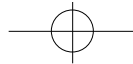


Fig.10 Alón Li'l Rascal Mk.II with tweeter diffraction ring, lateral response family at 50°, normalized to response on tweeter axis, from back to front: differences in response 90°–5° off-axis, reference response, differences in response 5°–90° off-axis.





The End

Overall, Alón by Acarian Systems has made quite a splash with its latest entry in the budget loudspeaker market, the Li'l Rascal Mk.II. In several areas, Carl Marchisotto may have set a new standard of performance for an inexpensive bookshelf design. I was pleased with how the Li'l Rascal satisfied musically over a wide range of program material. I am most impressed, however, that a speaker designer has been able to trickle a design element from a \$120,000/pair speaker all the way down to one costing only \$595/pair. That's an achievement.

Addendum

When I'd completed this review and an edited version had been sent to the manufacturer for comment, it occurred to Acarian Systems that my samples of the Li'l Rascal Mk.II—Carl Marchisotto's own pair—might not be representative of current production.

When the original Li'l Rascal was introduced in 1999, its tweeter was fitted with 1"-wide felt rings around the circumference of its dome, to modify re-radiation of high frequencies from the cabinet edges. According to Marchisotto, the ring purifies and smooths the speaker's high-frequency response. The first production run of the Mk.II version, however, was sold without the rings. The idea was that a ringless speaker would produce a livelier high-frequency presentation, and thus be a better match for inexpensive electronics with less revealing high-frequency response.

Marchisotto ultimately changed his mind, and the Li'l Rascal Mk.II now comes with diffraction rings. As it turned out, my review samples were of the early, ringless variety; JA felt that I

should listen to them—and that he should remeasure them—with rings installed. Acarian Systems mailed me a pair of rings, and I fitted them to my review samples.

The diffraction rings tamed some of the vocal sibilants I'd noted on the Madeline Peyroux recording; the highs sounded smoother and more refined, and Mark Ribot's dobro was a touch less metallic. The difference was less noticeable on Mighty Sam McClain's *Give It Up to Love*—with the rings, the reproduction of vocals and cymbals was almost indistinguishable from the sound without the rings—but the Fender Stratocaster's high-frequency attacks were tamed a bit. (The latter difference was akin to turning down the Twin Reverb amplifier's treble knob one number—more subtle, in guitar terms, than flipping off the Bright switch, or swapping a silver-panel, 1970s-vintage amp for a mellow pre-CBS version from the early 1960s.) The more highly modulated passages of Janis Ian's "Walking on Sacred Ground" (LP, *Breaking Silence*, Analogue Productions CAPP027) were less forward and more natural with the rings fitted, but there was very little difference on the low-level passages.

Overall, the effect of adding the tweeter diffraction rings was subtle, and more noticeable with some recordings than with others. The effect was not as great as switching from the Creek to the Audio Research amp, for example. On balance, however, the rings resulted in a more balanced, musical, and involving presentation overall. Acarian Systems has promised to provide diffraction rings free of charge to owners of early-production Li'l Rascal Mk.IIs. I recommend that they be taken up on the offer. ☒

Associated Equipment

Analog sources: VPI TNT IV turntable, Immedia RPM tonearm, Koetsu Urushi cartridge; Rega Planar 3 turntable, Syrinx PU-3 tonearm, Clearaudio Virtuoso Wood & Aurum Beta S cartridges.

Digital sources: California Audio Labs Icon Mk.II Power Boss, Creek CD53 Mk.II CD players; Pioneer DV-333 DVD-Video player.

Preamplification: Vendetta Research SCP-2D phono stage, Audio Valve Eklipse line stage.

Power amplifier: Audio Research VT100 Mk.II.

Integrated amplifier: Creek 5350SE.

Cables: Interconnect: MIT MI-350 CVTwin Terminator, MI-330SG, Terminator. Speaker: Acarian Systems Black Orpheus.

Accessories: Various by ASC, Bright Star, Celestion, Echo Busters, Salamander Designs, Simply Physics, Sound Anchor, VPI.

— Robert J. Reina

