

MICHAEL FREMER

Simaudio Moon Evolution 820S

POWER SUPPLY



Can a power-supply upgrade produce audible sonic benefits? If you've upgraded the power supply of a phono preamplifier, you probably don't need to be convinced that it does, and those usually cost only a small percentage of the price of the model they power. But to add Simaudio's Moon Evolution 820S power supply (\$8000) to the Moon Evolution 650D DAC-CD transport (\$9000), which I reviewed in the November 2011 issue,¹ almost *doubles* the latter's cost—though the 820S can be used to simultaneously power *two* Moon Evolution components, like the 750D DAC (\$14,000), 740P preamplifier (\$9500), and 610LP (\$7500) and 810LP phono preamplifier (\$13,000).

What costs so much?

The Moon Evolution 820S's sculpted case is large (18.75" W by 4" H by 16.81" D), heavy (40 lbs), and nearly identical to the 650D's. Inside, to left and right, are two identical circuit boards separated by a large enclosure containing a pair of custom, proprietary toroidal transformers said to have low

magnetic, electrical, and thermal loss that's claimed to result in improved power transfer and lower regulation factor, whatever that second term means. Simaudio says that all of this results in faster current flow and improved dynamic performance.

Though the two boards are identical, each is *not* reserved to power one of the two Moon Evolution components the 820S can drive. Rather, one board powers analog circuits, the other digital. In other words, when used in the 650D and 750D DAC-transport, one board provides the supply for the transport mechanism, front-panel display, software control circuitry, and digital audio circuitry; the other board is reserved exclusively for the analog signal, after it has been converted from digital.

The 820S's analog and digital supplies each have one special "pi" filter—at its simplest, a capacitor across the rectifier output, an inductor in series, and another capacitor

¹ See www.stereophile.com/content/simaudio-moon-evolution-650d-cd-player.

SPECIFICATIONS

Description Outboard power-supply upgrade for selected Simaudio Moon Evolution models. Transformers: two, 0.25kVA each. Total capacitance: 80,000×F. Total inductance: 80mH. Output voltages: ±20V (analog sup-

ply, output 1), ±14V (digital supply, output 2). Power consumption at idle: 25W. AC power requirements: 120V/60Hz or 240V/50Hz. **Dimensions** 18.75" (480mm) W by 4" (103mm) H by 16.81" (431mm) D. Shipping

weight: 40 lbs (18.2kg) shipping.

Serial number of unit reviewed P8823170.

Price \$8000. Approximate number of dealers: 80. **Warranty:** 10 years, parts & labor.

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across the load—to greatly reduce the transmission of noise in the AC power supply. The 820S has four capacitors totaling 40,000 μ F of capacitance and dual-choke 40mH (2x20mH) of inductance.

Each supply includes four stages of Simaudio's Moon Reference Regulation System (M-R2S), a fully discrete voltage-regulation circuit that uses a "precision reference," temperature-insensitive Texas Instruments NSI LM329 zener-diode chip to feed a discrete transistor-based hybrid amplification circuit (as opposed to the more commonly used single voltage-regulation chip). The M-R2S outputs pure DC power that Simaudio claims is exceptionally fast, precise, and stable, with a level of noise that is "virtually unmeasurable."

The 820S uses four-layer printed circuit boards with pure copper traces with extremely low impedance characteristics and short, low-noise signal paths, as well as the "finest quality," accurately matched electronic components used in a symmetrical circuit design.

Simaudio's one-sheet for the 820S claims that it brings the \$9500 740P preamp's performance closer to that of the more expensive 850P (\$30,000) in terms of transparency, neutrality, imaging, and noise, while adding the 820S to the \$7500 610LP brings

the latter's noise level, and thus the "blackness" of its backgrounds, closer to that of the more expensive 810LP (\$13,000). Simaudio claims that adding the 820S to the 810LP itself produces even blacker backgrounds and more precise soundstaging and imaging—but I get the sense that, for an \$8000 bump, the improvement is relatively small.

In my review of the 650D, I said that "the 650D has 18 stages of independent, inductive, DC power-supply voltage regulation (Simaudio calls this i²DCf) vs the 750D's 24 stages." In other words, adding the 820S to the 650D should bring its sound closer to that of the more expensive 750D. Interestingly, after that review was published, I heard from some readers and Simaudio fans who said that they preferred the 650D's sound to the 750D's, which in comparison they found too analytical and "clinical." Would adding an 820S improve or worsen the 650D's sound?

Easy installation

The 820S upgrade path was obviously planned during the design of the other products mentioned—in my case, that of the 650D. Each has both analog and digital multi-pin power-supply inputs. The 820S comes with two pairs of umbilical cables, only one of which was needed: I removed the power cord

SUBTLE & NOT-SO-SUBTLE CHANGES

DURING THIS REVIEW I added a variable to the mix: Shunyata Research's new ZTron Alpha Digital AC cable (\$995). It's less expensive than the company's top cords, but demonstrably more efficacious for removing power-line noise than some of their earlier, more expensive efforts. Shunyata backed this claim up with a paper-shredder demo at the 2014 Consumer Electronics Show, showing the reduction of AC line noise with an oscilloscope.

Before the 820S's arrival, I'd tried the ZTron Alpha Digital and a stock power cord on the Simaudio Moon Evolution 650D. The audible differences were similar to but far more subtle than the 650D's sound with and without the 820S.

Compared to one of Shunyata's more expensive power cords, one not specifically designed for digital components, the ZTron Alpha Digital produced even subtler differences. (All of these comparisons were made during the summer, when air-conditioners make power lines particularly noisy.) The 820S's filtering abilities made power-line noise a nonissue during my comparisons of AC cords, though if I were spending \$17,000 on a DAC-CD transport and outboard power supply, I'd consider spending another \$995 on a ZTron "just because"—or, at least, I'd ask a Shunyata dealer for a loaner to try.

The addition of the 820S produced such a major improvement in the sound of the 650D that I was moved to play with S/PDIF cables between the Meridian Music Server and the 650D. I swapped out a few brands; they all sounded different, but the best-sounding was Snake River Audio's Boomslang digital interconnect (\$595 for 1.37m). This solid-silver, solid-core, woven (not coaxial) interconnect reduced glare and excess brightness without attenuating the high frequencies, and increased transparency.—**Michael Fremer**

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from the 650D and plugged it into the 820S. I then pressed the 820S's power switch—a blue LED came on—and powered up the 650D as usual. The 820S is designed to be left on at all times.

iPad in hand . . .

Once the Moon Evolution 820S was installed, I began my informal listening and drew some conclusions. After almost two months of listening that way, I browsed my collection using the Meridian Music Server's iPad app and spent a few evenings listening to individual tracks in a playlist. Once I'd heard a few dozen selections, it was time to shut it all down, return the 650D to self-powered operation, and listen to the same tracks again. A comparison like this is far more easily done in the digital domain, especially with a music server.

Among the things I listened to first were 16-bit/44.1kHz and hi-res versions of the same tracks, downloaded from HDtracks. The hi-res versions of Steely Dan's *Gaucha* (24/96 download vs gold SACD/CD, MCA/Mobile Fidelity Sound Lab), James Brown's *20 All Time Greatest Hits!* (24/192 vs Polydor CD), and Béla Fleck, V.M. Bhatt, and Jie-Bing Chen's *Tabula Rasa* (24/88.2 vs CD, Water Lily Acoustics WLA-CS-44-CD) sounded obviously better.

Adding the 820S immediately produced a substantially improved and more inviting sound that, rather than to dissect and analyze, I just enjoyed and chalked up to "improved listenability with fewer digital irritants." And after living with the 820S for a few months, removing it made the differences even more pronounced—glaringly so.

In general, adding the 820S tightened the bottom end and removed smear and edge from the top, while improving high-frequency extension and the sense of air around instruments. Instrumental three-dimensionality improved, and microdynamics were particularly enhanced, probably as a result of the far lower noise floor—though I didn't hear "blacker blacks" as such, which wasn't surprising. The 650D, on its own, already produces black backdrops.

More specifically, among the tracks I listened to was the 24/96 download of *The Smithereens Play Tommy*, a just-plain-screaming, fun, well-recorded

ASSOCIATED EQUIPMENT

Analog Sources Continuum Audio Labs Caliburn turntable & Cobra tonearm & Castellon stand; Kuzma 4Point tonearm; Lyra Atlas & Etna, Ortofon Anna & Transfiguration Proteus, Miyajima Labs Zero (mono) cartridges.

Digital Sources Simaudio Moon Evolution 650D DAC-transport; BPT-modified Alesis Masterlink hard-disk recorder; Meridian Digital Media System; Pure Music, Vinyl Studio music-player softwares.

Preamplification Ypsilon MC-10L & MC-16L step-up transformers; Ypsilon VPS-100 phono preamplifier; darTZeel NHB-18NS preamplifier.

Power Amplifiers darTZeel NHB 458 monoblocks.

Loudspeakers Wilson Audio Specialties Alexandria XLF.

Cables Digital: Snake River Audio Boomslang S/PDIF; Interconnect: TARA Labs Zero Evolution, Stealth Sakra & Indra, Terasonic Clarison Gold. Speaker: Wireworld Platinum Eclipse 7. AC: Shunyata Research ZTron Alpha Analog & Alpha Analog HC & Alpha Digital.

Accessories Shunyata Research Hydra Triton & Typhon power conditioners (2 sets); Oyaide AC wall box & receptacles; ASC Tube Traps; RPG BAD & Skyline & Abffusor panels; Symposium Rollerblocks & Ultra platform; HRS Signature SXR, Finite Elemente Pagode stands; Audiodharma Cable Cooker; Furutech, Stein Audio demagnetizers; Furutech deStat; Loricraft PRC4 Deluxe, Audio Desk Systeme record-cleaning machines.—Michael Fremer

remake of the Who's "rock opera" (E1 2003). "Overture" opens with the familiar cymbal crash and guitar chord. With the 820S in the system, I noted the clarity of the cymbal crash and shimmer, and the distance between it and the guitar chord. In many ways, the sound reminded me of the original UK vinyl pressing, on Track. An inviting depth, spaciousness, and three-dimensionality produced a desire to turn the volume up, up, up.

This being a hi-res file, I expected all of these qualities to also be audible *without* the 820S. They weren't, beginning with that opening crash and chord, which were harsh and mushed

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together. The spaciousness, while still greater than from the CD, was flattened, and with things mooshed together, even at 24/96, that old digital harshness returned, causing me to turn it down, down, down. This was a *major* difference.

The 24/96 download of Malcolm Arnold's *Tam O'Shanter Overture*, from *Witches' Brew*, with Alexander Gibson and the New Symphony Orchestra of London (LP, RCA Living Stereo LSC-2225), went from sounding pretty good (if hardly LP quality) to drab and dimensionally flat, with the rumbling timpani indistinct. When the cymbals crash just before the trombone solo, I had to turn it way down.

In "It Wouldn't Have Made Any Difference," from Alison Krauss's album *Forget About It* (CD, Rounder) the woody rim shot that "popped" so distinctly with the 820S in place softened, as did the bass-line transient, which turned the low end to mush. I was surprised by the big difference on a pop recording.

Sounding soft to begin with, but firm enough to hold together through the 820S, Tarika Sammy's lilting "Revire," from *A World Out of Time: Henry Kaiser and David Lindley in Madagascar Vol.2* (CD, Shanachie 64048), fell like a poorly executed soufflé without the outboard power supply.

This exercise made me revise my negative opinion of Robbie Robertson's remix of the Band's *Rock of Ages* included in *Live at the Academy of Music 1971: The Rock of Ages Concerts* (3 CDs, Capitol UME 6 02537375271). While I could still do without the remix's panned drums, the edginess heard through the 650D alone turned into a more natural transient clarity electronic "etch" with the 820S that you often hear at live events.

Artur Rubinstein's performance of Chopin's Piano Sonata 2, "Funeral March" (CD, JVC XRCD), sounded soft and somewhat murky without the 820S. Attacks were indistinct, the recording space mixing with the instrument's lower register. With the 820S, the piano was more clearly defined within the space, attacks were sharper and more natural, and overall three-dimensionality produced a vibrant, muscular sonic picture worth listening to—the sorts of things that "vinyl colorations" seem able to reproduce with far greater ease. I played the LP (RCA Soria Series LDS-2554), and while it was somewhat closer to

the XRCD with the 820S powering the 650D, the vinyl presented a *piano* between my speakers, with harmonics and keyboard attack the CD couldn't begin to approach (though it had fewer pops and clicks). Even the recording's producer, Max Wilcox, might have taken time out from screaming at me for liking vinyl to notice. (He did that to me once at Avery Fisher Hall. I liked it.)

Richard Strauss's *Till Eulenspiegel's Merry Pranks* and Tchaikovsky's *Romeo and Juliet*, with Charles Munch leading the Boston Symphony Orchestra, is one of the most valued RCA Living Stereo vinyl releases, especially for its well-focused images and soundstaging. Again, the CD's picture (CD, JVC XRCD) was flatter, with less distinct images, with the 820S removed, and much better with it in.

"Dream Toon," from Repercussion Unit's DDD recording *In Need Again* (CD, CMP CD 31), is a Zappa-like percussion frenzy (minus Zappa's humor) featuring marimba, vibraphone, tabla, frying pans, mixing bowls, triangles, and everything but a Veg-O-Matic. It sounded great either way, but with the 820S powering the 650D, attacks were faster, cleaner, more precise—yet images were rounder, better textured, less cardboardy. Dynamics on this track and album were *insane*.

The 820S steeled instrumental attacks without producing unwanted edge definition. It made sustain more generous and greatly enhanced decay—no surprise there, with the delivery of the promised blacker backgrounds. The result? Far better rhythm'n'pace, and vastly improved image specificity, soundstaging, transparency, and dynamics. The sound was substantially better in every way. The improvements were not at all subtle.

Conclusion

My advice to owners of Simaudio's Moon Evolution 650D: Go to your dealer and get an 820S to take home and try. Put it on a credit card if the dealer doesn't trust you, but be prepared to drop \$8000—I don't think you'll be returning that 820S to the store.

Yes, adding an 820S almost doubles the 650D's cost—but in my opinion, adding it more than doubles the 650D's sound quality, which will *more* than double your musical enjoyment. And, as in the Hokey Pokey, *that's* what it's all about. ■