

Simaudio Moon 400M Mono Amplifiers

Note: Measurements performed by BHK Labs can be found through [this link](#).



Simaudio's top-of-the-line Moon Evolution components can spoil you. When I reviewed the Evolution i-7 integrated amplifier a few years ago, it cost just shy of \$6000 -- not cheap, but I thought it the best integrated amp I'd ever heard. The much more expensive Evolution P-7 preamp and W-7 power-amp, which then cost a total of about \$16,000, were even better -- at the time, they were the best separates I'd ever heard. I

now have in for review the new Moon Evolution 650D DAC/transport (\$8000), and while I can't say much about it before the review is published, I can tell you that its overall performance is on a par with the other Moon Evolution components I've written about so far. The Evolution models' prices keep them out of the reach of folks who have to watch their pennies, but just listening to them can make anything less seem a disappointment.



Enter the lower-priced Moon line, which Simaudio wanted me to have a taste of; they seemed unaware that their Evolution gear had made so good an impression on me that taking a step back might be quite difficult. The Moon 400M is a 400W monoblock amplifier that sells for \$3250 USD, or \$6500 for the pair you'll need to listen in stereo. That's still not inexpensive, but it's a lot less than what Evolution prices are these days (the entry-level Moon Evolution amp, the W-7, now costs \$9500). But after my experience with the Moon Evolutions, would a mere Moon be a letdown?

Description

The Moon 400M is fairly compact -- it measures about 17"W x 3.5"H x 14"D, which makes each amp easy to place in a rack or elsewhere in a listening room. The review pair sat on the floor near my room's front wall, each directly behind the speaker it drove.

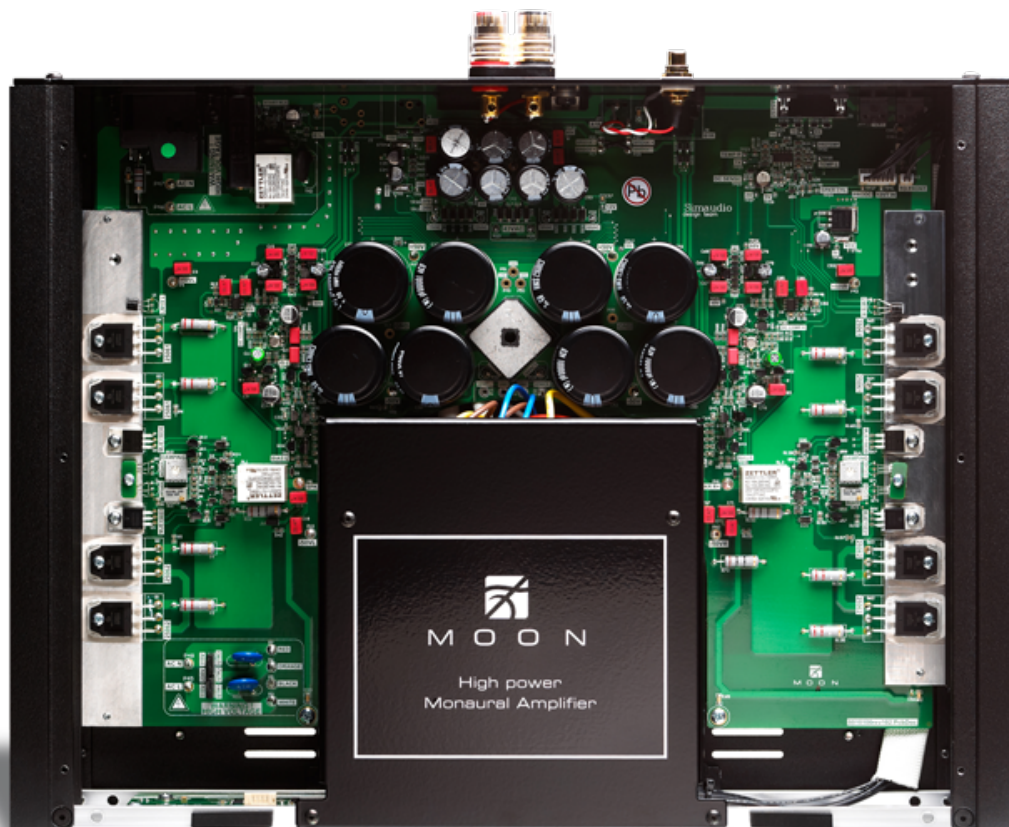
Each 400M has an all-metal chassis, a fairly thick faceplate that comes in black or silver, and weighs 30 pounds. Though well-built with a solid feel, cosmetically the 400M is pedestrian-looking compared to the glitzier, costlier Evolution models -- which, of course, is one reason it costs less. What Simaudio hasn't skimped on are the build quality and guts.

On the 400M's rear are one each of single-ended RCA and balanced XLR inputs, a pair of five-way speaker binding posts, a 12V trigger input and output, an RS-232 port, an IEC-compatible power-cord inlet, and a main power switch. The 400M is designed to be left on all the time, to keep its circuits warmed up; another power switch on the front panel is used to shift it from standby to full-on status. The only other things on the front are a blue status LED and the Moon logo.



The 400M's small size, high power, and relatively low dissipation of heat -- the review pair got warm, but never super-hot, while in my system -- might lead some to assume that it's a switching design. However, Simaudio's product line currently includes *no* switching amps; instead, the 400M is a traditional class-A/AB design with eight bipolar output devices per channel, and is claimed to deliver a whopping 400W into 8 ohms or 650W into 4 ohms. JFETs are used for the input stage, and the beefy transformer at the center of the amp's interior, toward the front, is said to be a proprietary Simaudio design. The company claims that the output devices used in the 400M are the same types used in the Evolution amps, and that class-A operation is maintained for the first 10W, after which the 400M slides into class-AB to achieve high power with high efficiency. They also say that the 400M is a fully balanced design, which means that quite a bit of the circuitry is duplicated. When implemented correctly (*i.e.*, with all parts properly matched), a balanced approach can produce less noise than an unbalanced one. Simaudio says that no global feedback is used in the 400M, though presumably some local feedback is.

Simaudio claims a frequency response for the 400M of 10Hz-125kHz, +0/-3dB, a signal/noise ratio of 106dB, and THD+noise of less than 0.05% at full power. They also say that the 400M's intermodulation distortion is "unmeasurable," and that its output impedance is a very low 0.01 ohm, which means considerable speaker control. The 400M is backed by the same warranty Simaudio gives their Moon Evolution models: ten years, or twice the industry standard.



System

For this review I primarily used my reference speakers, Revel's Ultima Salon2; I also tried Thiel's SCS4T, to ensure that what I heard wasn't applicable to only one speaker. It wasn't.

Preamps were Simaudio's own Moon 350P (review forthcoming) or the all-tube JE Audio VL10.1 ([also reviewed this month](#)). The digital source was my Sony Vaio laptop feeding a Simaudio Moon Evolution 650D DAC/transport via a Blue Circle Audio USB Tunnel digital converter doing USB-to-AES/EBU conversion midway. Speaker cables and interconnects were from Crystal Cable, Siltech, Nirvana, and Nordost (I tried them all, in balanced and unbalanced configurations); digital cables were from AudioQuest (USB) and DH Labs (AES/EBU).

Sound

What impressed me most about the Moon 400Ms wasn't just that they sounded ballsy -- very high power will help to deliver that, so I expected it. Nor was it how accurate they were -- these days, any decent solid-state amp sounds ruthlessly accurate, not to mention quite detailed. No, what impressed me was how open and spacious the 400M sounded, how sweet were its highs, how silky and full the mids, and how tight the bass while remaining rich and robust. Overall, I found the 400M to be a very high-powered amp that also sounded exceptionally refined, with definite sonic characteristics very much like those of the Evolution designs -- the same sorts of things I heard the first time I powered up the i-7. Obviously, the 400M is a trickled-down design. Now for the nitty-gritty of what all that means . . .

Some might describe the silky, full midrange sound I heard as "warmth," and that's fine with me. In fact, I'd even say that the 400M sounded just a touch "tubey" in that way. But it never sounded so warm as to obscure details -- supreme clarity and quite-high resolution were always apparent, regardless of what sort of music I played. And that sweetness in the highs meant that the upper reaches were thoroughly extended yet extremely smooth and clear, but never dry, clinical, or cold. To friends, I've described the 400M's high-frequency performance as sounding "golden" -- it didn't just sound clean, but also had some substance and shimmer at the very top end.

These qualities showed well with guitar; one such track I like to use as a reference is a cover of Paul Simon's "The Boxer" on a self-produced album by Brazilian guitarist Tupahn called *Covered Treasures*. The CD sounds surprisingly good for a homemade recording, with a midband that's rich and present, and a top end that's fairly clean but that can get steely and hard, particularly if the system it's played through sounds tizzy or cold. As a result of these inherent high-frequency nasties, *Covered Treasures* is often best served by tube electronics, which can somewhat tame the sound.

The sound of the 400M impressed me with how extended it was up top, and how it never tipped over into edginess or hardness, even if the recording itself tended that way. When a guitar string was plucked, there was only the sound emitted by the

instrument and the inherent sound of the recording, and none of the nasty, edgy artifacts that some amps inject. The 400Ms didn't cover up any problems in the highs -- they were still audible -- but they didn't exacerbate them, either, which is a very good thing.



There are no voices on *Covered Treasures*, but I could tell that the midrange sounded marvelously pure, with hints of warmth and weight that, if I hadn't known better, might have had me swearing that someone had hidden some tubes inside the 400Ms. Overall, the 400Ms didn't sound merely clean and extended, but also strikingly smooth, pure, and full, all the way from the bass through the highs -- music played through them always had body, which makes music sound much more natural than when an amp has a thin sound. The 400Ms were also more involving to listen to and easier on the ears than many icy-cold-sounding solid-state amps I've heard. In fact, I've used the 400Ms here as my main reference amplifiers for over five months, and I haven't tired of their smooth, full sound.

I was particularly taken with how the 400Ms handled voices. T.V. Carpio's cover of the Beatles' "I Want to Hold Your Hand," from the *Across the Universe* soundtrack (CD, Interscope B0000980102), isn't the best-sounding recording around, but I find the performance remarkably captivating -- I play it lots and know it well. Through the 400Ms it had a purity, smoothness, and clarity that reminded me of a great pure-class-A solid-state amp or a well-designed tube amp. Male voices had the same sort of clarity and purity, along with detail that was first-rate. If you want to hear a good recording of a male voice, try "Pacing the Cage," from Bruce Cockburn's *The Charity of Night* (CD, True North TND 150). Played through the 400Ms and either the Revel Salon2s or the Thiel SCS4Ts, Cockburn's voice dangled solidly at center stage with great dimensionality, a tangible sense of space around it, and scads of detail. Besides the purity of tone and the body the 400Ms gave to music, they had great imaging capabilities, placing musicians solidly in space with dimensionality, size, and high resolution. Provided the recording had a credible soundstage to begin with, all this reproduced a soundscape of impressive width and depth.

I mentioned that the 400M's bass was rich and robust, and similar to the kind of warmth and fullness I heard in its mids. I didn't describe the bass as "warm" because some associate warm bass with the bloated, woolly sound, with next to no detail, that's often heard from tubed amps. The 400M's bass sounded rich, robust, and, yes, slightly warm -- but it was also tight and detailed, as solid-state sound should be. However, it wasn't wound so tightly as to sound uptight, constipated, and strained, all bass impact and no bloom, as some *too-tightly-wound* amps sound. Instead, the 400M's bass had richness that bordered on the *majestic* -- a grand, glorious sound that resonated with presence. For example, the low end of the piano in Ola Gjeilo's *Stone Rose* (SACD/CD, 2L 2L48SACD) had all the weight and depth it should, but with a healthy sprinkling of presence and richness that made the speaker end of the room come alive, filled with sound that was startlingly real.

On the other hand, the 400M wasn't so rich and present that control and detail were sacrificed. This *is* a high-powered solid-state amp, after all, and control is what such amps excel at. Nor am I so naïve as to think that someone who buys a 400W amp wants only refinement, such as the warmth in the bass and mids and the sweetness up top -- they also want balls-to-the-wall power and control.

Thiel's SCS4Ts aren't that power-hungry, but the Revel Performa Salon2s are -- they can play louder and cleaner, and with more authority, when driven by a high-powered amp. Each 400M grabbed its Salon2 in a tight grip and ably controlled its three woofers, delivering bass in my room with the impact of a punch from Mike Tyson in his prime. And despite my occasionally cranking up some hard rock to bug-the-neighbors levels -- you can't help it with an amp with so high a power rating -- the 400Ms never came close to clipping or losing their composure. The very powerful 400Ms were able to completely control such demanding speakers as the Salon2 and give me all the volume I needed, even in my very large room.

That high level of available power gave me more than just the headroom I needed to play music loud. Intrinsic in the sound of almost all high-powered amps is a sense of effortlessness and ease that can be heard at any listening level, even very low volumes, when having so much power at your disposal shouldn't seem to matter. For example, deep, deep bass can be heard throughout "Misguided Angel," from the Cowboy Junkies' *The Trinity Session* (CD, RCA 8568-2-R). Full-range speakers are required to hear -- and *feel* -- how low this track really goes, as well as a high-powered amp to make the deep thumps impactful, and effortlessly enough to make it seem as if the speakers could flex their low-end muscles all day, every day. I can't say the

Moon 400Ms sounded more powerful and effortless than any other amps I've had in my room, but they were certainly on a par with the best I've heard.

Considerations . . .

So far, this review contains plenty of praise and few, if any, complaints about the Moon 400M. It would seem to be the perfect amplifier to buy. For many, perhaps, it is -- but it's not necessarily *the* amp for everyone. Time for a reality check . . .

If you want your equipment to look sharp -- nicely shaped, chromed, painted, what have you -- you should probably look elsewhere: The 400M is far more about performance than appearance. No one will enter your room, look at them, and say, "Oh wow!" They'll be impressed only when they listen.

A strength of the Moon 400M is its *combination* of very high power and refined sound. But if you don't need all that power, and can live without the headroom, and the effortless ease that having more power than you need provides, then you can buy a lower-powered amp for less money and still get sound similar to the 400M's refinement and other characteristics. An obvious choice is Simaudio's own Moon 330A, with a similar circuit design built on the same chassis. The big diffs are that the 330A is a stereo amplifier rated to deliver 125Wpc into 8 ohms or 250Wpc into 4 ohms, and retails for only \$3250.

It's also important to note that the 400M isn't the only high-powered, reasonably priced amp on the market, and certainly not the only one that sounds very refined. Bryston's 4B SST₂, a high-powered stereo amp with rock-solid bass and a very clean midrange and highs, costs \$5000 -- and we've dubbed the 4B SST₂ a "[Recommended Reference Component](#)" on *SoundStage! Hi-Fi*.

First, a bit about that price difference: a pair of Moon 400Ms costs \$1500 more than the Bryston. Of course, the Simaudio puts out more power: 400W into 8 ohms or 650W into 4 ohms, compared with the Bryston's 300W into 8 ohms or 500W into 4 ohms. Mostly, though, I think the \$1500 difference has to do with the 400M having two chassis, which means more parts costs. Nor will either model win a beauty pageant -- both obviously come from the school of form ever following function, and the belief that power amps should be heard and not seen.

The 4B SST₂ sounds every bit as powerful and effortless as a pair of 400Ms, despite its slightly lower power rating, and it also sounds every bit as refined and "musical" -- there's nothing off-putting about the Bryston's sound, and it remains listenable over long, long listening sessions. Where one might be preferred over the other is in slight sonic differences that are easy to hear: the 400M's hint of warmth and presence in the bass and mids and, for me, its sweetness in the highs. The 4B SST₂ has a bit more of the sound typical of high-quality solid-state amps: extremely precise, extraordinarily clean, and impressively detailed, with a bit better control of and authority in the bass -- but its sound lacks the Simaudio's grandeur and majesty -- precisely the qualities the Moon 400M shares with its bigger, more expensive Moon Evolution brethren.

A decision regarding which of two excellent amps is "better" comes down to listening preferences. Visitors to my listening room who have heard the Revel Salon2s driven by both amps tend to like characteristics of each. My recommendation: Don't buy either without listening to both, as well as to some other amps of similar price. Differences such as these are more likely to come down to individual taste and need rather than to judgments of better or worse. And those are cases that no reviewer can decide for a consumer.

Conclusions

I feared that, after reviewing Simaudio's Moon Evolution components, their lesser gear might be a letdown. Instead, the opposite occurred. The Moon 400M monoblock ended up being one of the two biggest surprises to come along this year so far. (The other is JE Audio's outstanding VL10.1 preamplifier, which I not only review this month, but which paired very successfully with the Moon 400Ms.)

The 400M's prodigious output capability means that it can easily drive large speakers such as my Revel Ultima Salon2s -- but it's able to do so with the refinement and detail that many associate with much smaller amps. The 400M also has the sound that, until now, I'd heard only in Simaudio's Moon Evolution models: a sweet, golden top end; smoothness, purity, and presence in the midrange; and rich, robust bass. Put that all together and the 400M sounds open, grand, and majestic -- the opposite of an amp that sounds closed-in, sterile, and lean.

\$6500 isn't cheap, and the 400M's looks aren't exceptional -- but lurking beneath their plain surfaces is an outstanding-sounding, high-powered amplifier whose performance is something special. If you dream of owning Simaudio Moon Evolution components but, like most of us, can't afford them, look to the Moon 400M -- it delivers Evolution-like sound at a reasonable price.

. . . *Doug Schneider*
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Associated Equipment

- **Speakers** -- Revel Ultima Salon2, Thiel SCS4T
- **Amplifiers** -- Blue Circle Audio BC204, Bryston 4B SST₂
- **Preamplifiers** -- Lamm Audio LL2.1 Deluxe, Simaudio Moon 350P, JE Audio VL10.1
- **Digital sources** -- Simaudio Moon Evolution 650D DAC-transport, Zanden Audio Systems 2500S CD player, Sony Vaio laptop, Ayre Acoustics QB-9 USB DAC, Hegel HD10 DAC
- **Speaker cables** -- Crystal Cable Piccolo, DH Labs Silver Sonic Q-10 Signature, Nirvana S-L, Nordost Valkyrja, Siltech Classic Anniversary 330L
- **Interconnects** -- Crystal Cable Piccolo, Nirvana S-L, Nordost Quattro Fil, Siltech Classic Anniversary 330i

Simaudio Moon 400M Mono Amplifiers

Price: \$6500 USD per pair.

Warranty: Ten years parts and labor.

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