

# EQUIPMENT REPORT



## AVM SA8 Power Amplifier

Power, Neutrality, and Poise

Anthony H. Cordesman

**W**hen I begin by saying the AVM SA8 stereo amplifier is a difficult product to review, it is not for the usual reasons. The AVM SA8 did not present any performance problems during several weeks of auditions in my reference system or in the systems of several of my friends. It never presented any problems in setup or operation either. Quite the contrary, it was easy to set up, performed flawlessly, and is one of the best-performing amplifiers I've had the privilege of reviewing, which, at \$13,880, it damn well should be.

The problem was very different and says more about the limits of reviewing today's cutting-edge amplifiers than it does about the AVM SA8. The SA8 does have sonic character—every product does. But, like some of the best power amplifiers around, that sonic character is very limited. In fact, most of what you hear is the coloration of other components.

I did a lot of listening with this amplifier along with several other top amplifiers, and again and again I found that what initially appeared to be colorations in the amplifier were actually the product of colorations in the listening material, the front end, the speakers, the interconnects, and the speaker cables. In many, if not most systems, the sound character of the AVM SA8 would be overshadowed by this complex mix of colorations in the other components.

And yes, this is definitely a good thing in terms of the AVM SA8's performance. You want as neutral a power amp as you

can get. As every experienced audiophile already knows, every component in your system—and here I include a given recording, a given listening room, and the placement of speakers and listening position therein—to some extent acts as a filter and an equalizer. You can't really solve this problem by using the coloration of one component to offset the coloration of another. No matter how well you try to blend components with different sound characters into a system, each different type of coloration comes at a cost. Something—bass, highs, dynamics, low-level detail, and natural musical life—is lost to some degree. This scarcely is a reason not to seek synergy among your components. Every experienced audiophile knows that simply assembling gear that measures well does not produce the best possible sound. You have to listen, as well. It is also a fact that many audiophiles choose a colored system because they find it musically exciting, soothing, or suited to their taste in music.

At the same time, most audiophiles do want the most neutral and transparent sounding components possible. Warm and forgiving components come at a real cost. You give up detail and dynamics, transparency in the soundstage, and much of the life of music. If you reverse the process and choose electronics that emphasize upper-midrange energy and create artificial "detail," or that can't really deliver the lower midrange accurately or deliver deep bass into truly demanding loads, you get more detail at the cost of an emphasis that never occurs in real life: hardness and listening fa-

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tigue, and real problems with the timbre of piano, brass, woodwinds, soprano voice, and strings—particularly massed strings.

And, this is precisely why the neutral transparency of the AVM SA8 comes close to delivering the Golden Mean. The SA8 is the product of a German company I had not previously been aware of, but in talking to one of its lead designers it quickly became apparent that AVM is an audiophile firm that focuses on music and not specsmanship. This message comes across quite clearly on its Web site ([avm-audio.com](http://avm-audio.com)), as does AVM's attention to detail. AVM states that "we manufacture all AVM components in our own plant. For the few parts (such as pc-boards, front panels, transformers) that we cannot produce by ourselves we have reliable suppliers nearby, who have been working with us for years."

The SA8 also shows that AVM cares about visual aesthetics, and follows in the best traditions of German design. You get a beautifully styled amplifier in the form-follows-function modern tradition. It has a compact but highly useful front-panel display (which can be turned off by the remote), and an excellent array of rear input and output connections. At the same time, you discover its real "guts" the moment you try to pick it up. The manufacturer specifies that it weighs 42 kilograms or around 93 pounds, but try moving it and I promise it will feel a lot heavier.

What is far more important to you as an audiophile, however, is that the SA8 is one of the few amplifiers that really has

the power to drive virtually any speaker load with minimum interaction. Its power is rated with extreme conservatism at 220 watts into 8 ohms, 450 watts into 4 ohms, and 650 watts into 2 ohms. Talking to AVM makes it clear that the SA8 can drive any real-world speaker load, including the nominal 1-ohm loads of the earliest Apogees (although this load might use enough power to trigger your circuit breakers unless you have a dedicated 35 to 40 ampere line).

It also can deliver an immense amount of current. It is one of the few amps that I've seen that has a 16-ampere power cord, rather than the usual 10 amperes. It can deliver up to 60 volts at the speaker terminals enough amperage to deal with any demanding speaker load I know of, and it has a rated damping factor of over 1000.

If this begins to sound like more of a horsepower race than something of real value to most speaker owners, that simply is not the case. I've found again and again that the real reason for power in both watts and current is that it helps explain why an amp like the SA8 will be minimally affected by your speaker and speaker cable. This amplifier will not react to complex crossovers and impedance shifts. It will never damage your drivers with distortion at peak powers. It will handle virtually any peaks without altering dynamic detail, and it will provide about as tight and well defined a sound out of your woofer as the speaker makes possible.

### Inside the SA8

AVM has been designing and manufacturing a wide range of audio products in Germany since 1986. In 2010 the company was bought by Udo Besser (formerly Burmester's general manager and co-owner) who brought to the company plans for modernizing the product range and expanding the markets for AVM's electronics around the world.

AVM products are built entirely in Germany and feature the traditional high level of German design, manufacturing, and workmanship. The SA8 reviewed here is a good example of the company's design approach. The SA8 is equipped with five independent power supplies, one for each channel's driver and one for each channel's output stage, and one to supply the input stage of both channels (the latter is also the standby supply). Unusually, each stage of the amplifier (input, driver, output) is fed from its own transformer. With a single transformer for both channels' input stage and separate left and right driver-stage supplies and output-stage supplies, the SA8's chassis hosts a whopping five toroidal transformers. This input-stage supply is fed from a 15VA transformer and filtered with 8000uF of filter capacitance. Additional capacitors next to the audio circuits bypass the supply. The driver stages for the left and right channels are each fed by their own 30VA toroidal transformers, and each output stage gets its own 1kVA transformer and 200,000uF bank of filter capacitance. Rather than use "soda can" filter capacitors in the output-stage supply, AVM has ganged twenty 10,000uF

caps, a technique that it says lowers the supply's output impedance and can reportedly deliver current faster to the output transistors. In addition, each of the FET output transistors' supplies is bypassed with an additional cap right next to the transistor.

The input stage is built around a fast op-amp that has a 2MHz bandwidth. The bipolar driver stage reportedly relies on very little negative feedback. This stage is unusual in that it's built more like a miniature output stage than a traditional driver stage. This driver stage can deliver a whopping 1.5A to the gates of the output transistors over a 1MHz bandwidth. (This is equivalent to 20W driving an 8-ohm loudspeaker.) AVM overbuilt this driver stage to imbue it with the ability to instantly and totally control the output transistors. This is why the driver stages (left and right channels) each have their own power supplies fed from dedicated transformers.

Each output stage is built around 24 FETs, which is a massive number by any standard and which, in conjunction with the hefty power supply, allows the SA8 to double its output power as the impedance is halved (220Wpc into 8 ohms, 440Wpc into 4 ohms). This suggests, and Anthony Cordesman confirms, the SA8 will have no trouble driving even the most challenging loudspeaker load.

Incidentally, if you want more power, the amplifier is available as a twice-the-power monoblock, called the MA8.

Overall the SA8 is an impressive piece of amplifier engineering. I'm surprised that between the hefty construction, German manufacturing, and exquisite metalwork, it is priced so reasonably. **Robert Harley**



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My listening tests showed that the practical meaning of the design features (see sidebar) is that the SA8 will not create any bass energy or warmth that isn't on the recording. It is not "romantic" as some lower-powered tube amplifiers are, although it does not run out of bass energy as some other more "detailed" amplifiers do. If you use the SA8 to play back a really good recording of electric guitar, truly demanding deep synthesizer bass, a complex symphony with demanding low end like Mahler's Third, or a sonic spectacular like Saint-Saëns' Third Symphony on a really good system with really good speakers, you'll be sold on the merits of control, detail, and truly lifelike dynamics over "romance" and "warmth."

I was just getting used to the new Wilson Alexia as one of my two reference speaker systems when the SA8 came in for review. Unlike my Legacy Aeris, it does not have powered woofers. Like most Wilsons, however, it has an amazing power-handling capability and the ability to resolve detail at high listening levels even with the most complex electronic music, symphonic spectaculars, operas, and rock. The SA8 was about as musically exciting as any amp I've used; its only rivals or superiors cost more than twice as much.

Moreover, after having a friend help me move SA8 around so I could hear it in different systems, I can assure you that it does not provide this power at the expense of low-level musical sound and detail or exhibit any other change in sonic character from the lowest threshold of musical information with the softest passages of voice and chamber music to levels that went well over 107dB. (If you want to go higher, I can assure you there was power to spare when I quit raising the volume control, but you'll have to damage your own ears.)

I also found that when I did try it out with different speakers and systems their owners also commented on the fact they were hearing the known colorations in their front ends, interconnects, speakers, and listening rooms rather than the SA8. They had the same reaction that I did: The music that goes through the SA8 is very easy to listen to, but SA8 itself is hard to hear.

As I've touched upon earlier, this is something every audiophile wants. Some of my friends with tube amplifiers have chosen them for the warmer nuances they provide in their system and several have chosen well, particularly in an era of over-bright recordings. But even they agreed that the SA8 was always musical, always had good soundstage depth and width, and did an outstanding job of resolving detail. This is not the kind of amplifier where you have to single out some special feature on some specific recordings. It really does perform exceptionally at every level.

In fact, it did sufficiently well that I had to go out and deliberately try to something to fault. This got me into trying some combination of my various front-end EMM, Pass, and PS Audio electronics, interconnects, speakers, and speaker cables that would reveal a major problem. Even then, my search for flaws was largely a waste of time. Again and again, I was hearing the familiar limits and colorations of the reference components in my system.

I was lucky enough to have access to a set of Transparent Audio Reference MM2 tuned to my specific components, and to both the Wilson Alexia loudspeakers and my reference Pass XA160.5 power amps. This tuning really paid off when I used the Pass power amps, but was less apparent with the SA8—again revealing how much the mix of interconnects, speaker cables,

and given loads can affect the overall colorations in a system. The same was true of the sets of Kimber and AudioQuest cables I also use to test system interactions. These are all excellent cables, but they also have a familiar sonic character, and I found in case after case that I could hear the rest of the system better than I could the SA8.

So what can I criticize? Well let me turn to personal bias and prejudice. The Pass XA160.5s could not equal the SA8 in sheer power and dynamics—a sacrifice in performance I had heard earlier when I went from the Pass X600s to the XA160s. At the same time, I felt the Pass did a better and slightly more natural job of revealing the finer musical details, in reproducing the lowest level textures of strings and piano, and in capturing the subtler aspects of really good soprano voice recordings.

I also was beginning to review the new Pass Xs300s, and I felt they allowed me to get both the better musical subtleties of the XA160s and the power of the SA8s, although I never really drove either the SA8 or Xs300 power amps to the point where the higher power output of the SA8 might have made a difference. It should also note that the Xs300s are far higher priced.

I hope, however, that the limits to these judgments are clear. As a reviewer, I'm all too sensitive to the fact that letting my taste dominate my comments on the more subtle and complex aspects of sonic nuances does not really serve the reader's interest. I cannot possibly try all the combinations of front ends and cables that affect the sound, much less change my speakers and my listening room. When components get this good, it is far too easy to push the limits of judgments to the point where prejudice and personal taste dominate, rather than make judgments that the audiophile can count on in auditioning the component or is likely to hear when he puts that component in his system.

So, let me finish with the following summary comments, which are pretty close to the point where I began. The AVM SA8 is one of the best and most enjoyable amplifiers I've ever heard, and inspired hour after hour of listening. I had to work really hard to find anything I could even to begin to criticize in its sound. At the close, I was far more aware of my prejudices and the limits of my reference system than the limits of the SA8. This is a truly outstanding product even at a very demanding price. If you are at all into solid-state power amplifiers of any kind the SA8 is truly worth auditioning. Moreover, I really do believe that for most audiophiles, it is so clean and transparent that you will hear far more of the colorations in the rest of your system than you will those of the SA8. **tas**

### SPECS & PRICING

**Output power:** 220W into 8 Ohms, 440W into 4 ohms  
**Dimensions:** 17.1" x 9.8" x 16.5"  
**Weight:** 92 lbs.  
**Price:** \$13,880

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