

A unique opportunity to alter high-quality playback for the better

Robert E. Greene



The Marantz SA-7S1 is a truly unusual piece of equipment. There are many CD players of elegant construction and high sonic merit and even quite a few SACD players answering the same description. But beyond these virtues, the Marantz offers a unique opportunity to alter the way in which its high-quality playback is executed. In fact, this is so unusual that it is going to take a bit of explaining even to make clear what it is!

In brief, the Marantz lets the user select several different digital-filter options for CD playback and several forms of filtering for noise suppression (or not) in SACD. Digital is sometimes regarded as a sort of absolute thing, wherein the output is supposed to be totally determined by the input bits. In fact, there are options that all fall in the category of being arguably correct, but which sound subtly but observably different from each other.

To anticipate the sonic conclusions before getting into any technical details, let me say right away that Filter 2 for CD playback sounded amazingly good to me at first, but Filter 3 came on strong later. Forget theory for a moment; when I heard my first CD on Filter 2—Freddie Kemp’s Rachmaninoff solo piano from BIS, as it happened—my immediate reaction and

remark was: “What gorgeous sound!” I have heard this CD many times, but I have never heard it sound more beautifully realistic and less digital in any negative sense than here. This is not to say it did not sound good on other filter settings on the Marantz. It did. But Filter 2 seemed magical for this material. However, on other things, especially complex material like orchestras, Filter 3 could come to the fore, revealing the proverbial inner detail most convincingly.

Looking in the owner’s manual revealed that Filter 2 is supposed to have “analog characteristics of slow roll-off” with “well-balanced reproduction.” Filter 3 was supposed to make impulses as precise as possible. Fair enough as sonic descriptions, actually. But what these are literally is a little trickier to talk about.

I shall get back to that in a minute, but first let me say that, as befits a unit in this price range, the Marantz is elegant in appearance and infallible in operation. It plays without demur even the iffiest CD-Rs, as well as CDs in less than the best condition. And the unit is very handsome in a visually discrete, albeit substantial fashion. (It weighs nearly 50 pounds!)

But it is the sound that fascinates. I suppose we have all become



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accustomed by now to digital-to-analog conversion that is free of overt digital artifacts. Even relatively inexpensive converters like my reference Benchmark DAC-1 can be all but perfect in this regard. But even within this overall context of satisfaction, the Marantz in its Filter 2 setting comes across as sounding like analog in a superbly positive sense, to my ears at least, and Filter 3 has as high perceived resolution as I have encountered.

Now, let me make a try at explaining filter options in general without using too much mathematics.

The goal of a recording/playback system is this: An impulse “in” should yield the identical impulse “out.” If the system has low levels of nonlinearity—THD, IM, TIM, and so on—then this is all there is to it. If an impulse in gives the same impulse out, such a linear system is simply perfect.

Now this never happens for a simple reason: An impulse is an infinite-bandwidth signal. It has energy at all frequencies. But all recording/playback systems have a finite bandwidth, some kind of upper-frequency limit.

So what does an impulse look like after one simply removes the energy above a given frequency, while doing nothing to the frequencies—no alterations in phase or amplitude—below the cutoff?

The answer to this is far from obvious, but mathematicians know how to figure it out. What it looks like is a kind of slightly rounded spike with some ripples before and some ripples after. Note that, by definition, this is all within the range *below* the cut-off.

Of course, the difference between the original impulse and the frequency-truncated impulse is all *above* the cut-off limit. So the difference ought to be inaudible. However, the ear/brain is not a pure Fourier analyzer. It also has an overt time component. *When* things happen matters. So it is not entirely implausible that the “pre-echo,” the ripples that occur before the main spike, can be heard, in a sense, separately.

Now with over-sampling and digital filters, the filtering can move the timing (phase) of the ripples around. The truncated impulse cannot be the original impulse—that is impossible since a pure impulse has to have infinite bandwidth. But one can move the time position of the ripples.

Neil Gader comments

It's difficult to overstate the build-quality and sonic performance of the SA-7S1. Or its mass! It stands alone in my experience as the only CD player I've ever considered enlisting help to carry into the listening room. Like REG I haven't spent any appreciable time with the biggest guns of PCM/SACD playback. But even admitting that, I can't imagine they'd put the Marantz to shame. What I hear is a greater sense of dynamic contrast, with timbre and textural detailing that reveals heretofore hidden musicality on the most familiar discs. Even on prosaic pop releases, it resolves specifics where you only previously perceived the generic. Like a particularly loose kick drum sound, a string buzz off the fretboard, or a millisecond more reverberant delay on a vocal. And it doesn't have a clinical bone in its fully armored body, nor does it leave any incriminating digital fingerprints. Finally, if more people could have heard SACD aboard this ride, the high-res format might have actually taken off.

In Filter 2, according to Marantz's own description, the “pre-echo” (ripples before) is reduced and the “post-echo” (ripples afterward) is extended.

Why is this analog-like? Because analog filters, and indeed analog devices like speakers, almost always ring a bit afterwards but have no pre-echo! Music, for example, always has a “tail.” It starts cleanly, with no pre-echo. But it always rings a bit afterward.

In short, reducing the pre-echo, even at the price of increasing the post-echo, is in a way more like music. This is not euphonic coloration; it is one approach to the psychoacoustics of the situation.

Does this really matter? With the Marantz you can try it for yourself. This won't be exactly science. After all, you do not know what the recordings ought to sound like exactly, nor, indeed, exactly how the filters are executed (e.g., if the frequency response really is exactly the same). But in musical terms, the filters sounded different.

Something similar happens with the Marantz SACD playback, too. All three options there sounded very good to me, with the





Water Lily Mahler 5 that I worked on being very reminiscent of the sound I heard at the mastering. One really feels close here to the mastertape, and hence to the live mike feed (it is quite hard to tell live feed from DSD replication). But the different options affected the sound in its microstructure. One of these involved no filtering of the DSD stream at all: Whatever there was above 100kHz was just let straight through. In the other two options, filtering was applied, but at different places along the digital chain. To my ears, Filter 3 emerged on top for perceived resolution. But again preferences might vary with material.

The Marantz is an exceptionally fine-sounding source component. I found its sound difficult to fault, and indeed it rather aggressively reminded me that the much-higher-priced players that are available might find it difficult to justify their prices in listening terms alone. (I have not tried anything like all the ultra-priced player/converter combos, but I have tried some.)

Specs & Pricing

Type: CD/SACD player
Analog outputs: Balanced on XLR jacks, unbalanced on RCA jacks
Digital outputs: Coaxial and TosLink optical
Dimensions: 18 1/4" x 5 7/16" x 16 13/16"
Weight: 49.1 lbs
Price: \$6999

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The Marantz opened an intriguing possibility. Consider that its sound, while never less than excellent, changed with filter choice by at least as much as the sonic change one tends to get from switching to a different converter; could it be, then, that the filter choice is really *the*, or at least *a*, main factor in the sound of expensive players? This is intriguing, because filter choice is apparently not a hugely expensive matter. After all, the Marantz has three for CD and three for SACD at its moderate price—moderate in this context, at least.

In sum, the Marantz is a superbly built and superb-sounding unit. If I didn't have frequent need for separate boxes, in order to apply DSP room correction (the Marantz does not allow the insertion of such a device, being a true one-box player), I could settle down with the Marantz indefinitely and feel no regrets at passing by other units costing as much as cars or, in some cases, houses in smaller towns. It is, in short, a bargain for what it offers. **TAS**