



## MURATA TWEETERS: A SECOND LOOK

The picture above may look familiar, because we used it in our previous issue. We'll explain why.

What muRata makes is super tweeters, meaning tweeters that operate *beyond* the range of normal tweeters. And in large part beyond the range of human hearing too. The human ear can reliably detect signals up to perhaps 20 kHz, but closer to 15 kHz as one gets older, and a lot less for those living in very noisy surroundings. The muRatas *begin* at 15 kHz, and extends out to a claimed 100 kHz. They are meant to be used with SACD and DVD-A players, which can reproduce signals up to 70 kHz or so. Are there actually such signals? And is there any point to reproducing them if (possibly) we can't hear them?

In our last issue we gave the muRatas only an hour of our time, and just one page of the magazine, because we figured they wouldn't be worth more than that. That one-hour session convinced us we had been wrong. The muRata tweeters deserved much more attention.

We are bothered by the assumption that the sensitivity of your speakers is predictable. It isn't. If you have one of those little sealed speakers with an 83 dB sensitivity, you'll need to turn up the volume, and then the muRatas will presumably sound too loud. If you have horn speakers with 104 dB sensitivity,

the muRatas can't be expected to contribute much of anything. Fortunately our two reference speakers have respective sensitivities of 91 and 92 dB. By the way, you should try connecting the tweeters in reverse to see what works better. Reverse phase was better for us, though it may not be for you.

So here we are again, with a larger stack of recordings this time. We began with our Omega system, and its Reference 3a Suprema speakers. The muRata tweeters sit nicely on top. They have their own (mechanical) crossover, and so you just connect them across the regular speaker binding posts.

We started with an SACD used in several tests this series, *Comes Love* from the Opus 3 *Showcase* disc. The difference was subtle, and Gerard expressed surprise that were actually *was* a difference. He found that the clarinet was better detached from the busy instrumental ensemble, and that the piano was clearer as well. Reine agreed. "Without the muRatas," she said, "I had to concentrate more to pick out the piano in the opening." Albert wasn't certain, and reserved judgement.

We continued with Eric Bibb's *Good Stuff*, and this time Albert was more

**So how high can you really hear?**

impressed. "All of the instruments are easier to separate," he said, "and the voice and instruments don't clump together so much. The mandolin is clearer, and the timbre of Bibb's voice is improved too." Reine agreed, noting clearer lyrics and a better stereo image.

Gerard found similar improvements, and expressed surprise that these small but perfectly detectable improvements were not accompanied by unpleasant side effects.

We turned to a classical SACD, Beethoven's *Symphony No. 5* (PentaTone 5186 102). Was there a difference when we added the muRatas? Albert found improved string tone and a clearer orchestral sound in general. Reine and Gerard weren't so sure.

We then pulled out the new SACD version of one of the oldest of all audiophile recordings, *Cantate Domino*. Both Gerard and Albert pointed to an improvement in the choral voices with the muRata tweeters. "The voices aren't any better," said Albert, "but you can make them out better." Gerard said he was better able to distinguish the different organ stops used, and commented he had never heard this famous recording sound so good.

Reine shook her head. "I didn't hear any difference," she said.

You'll recall that the rationale behind super tweeters like the muRatas is that SACD and DVD-A, unlike Red Book CDs, don't have response stopping at 20 kHz. We assumed there would be no point trying them with a standard CD, but muRata wrote to urge us to try anyway.

We did, playing one of our all-time favorite violin recordings, the Dvorak *Romantic Piece, op. 75* (Analekta FL 2 3191). Yes, there was a difference. Albert and Reine thought the piano was a touch clearer. The sound of James Ehnes' violin was altered too, with a bit more of a "resinous" tone, and more of a feeling of the bow sliding across the strings.

How would the muRatas do on our other reference system? The speakers this time were Living Voice Avatar OBX-R's, whose Revelator tweeters are known for very extended range. What's

more, the well-damped acoustics and the quietness of the Alpha room would make tiny differences all the more audible. We brought along our Linn player and three of the four discs we had listened to before.

We began with Bibb's *Good Stuff*. The difference was not so evident this time. Gerard still heard better separation of voice and instruments, but Albert had doubts, and Reine was even less certain. "The subtleties are so...subtle," she said.

She found the changes every bit as subtle on *Cantate Domino*. "There might be a bit more clarity of the different stops on the organ," she said, emphasizing the word *might*. Albert, on the contrary, found the difference greater than it had been on the Omega system. "It's odd, but the *lows* seem to come out better. The tweeters seem to increase the contrast, and the voices are better delineated."

With the Dvorak CD, it was more difficult to spot much difference. We made an effort to hear what we had noted before, namely more detail on the violin and more clarity on the piano, but we didn't come away with much.

We know what you're thinking. What if we *unplugged* the main speakers and left only the muRata super tweeters. Would we hear anything at all? We had to try it.

We played the Dvorak CD once again, and for the few seconds we seemed

to hear the sound of silence. Had we been fooling ourselves? We rose from our seats and walked up to the speakers, and *now* we could hear some very high-pitched sounds emerging from the muRatas. Returning to our seats, we could still hear them, now that we knew what to listen for. Subtle...for us at any rate.

Then again, our microphone has much younger ears than we have, and is calibrated out to 40 kHz. We had to plug it into analog gear, because our usual digital instruments don't rise very far into the spectrum favored by bats.

We started by measuring response of our Living Voice speaker *without* the muRata, and then with. Though we usually use one third octave noise for frequency measurements, we have

### SUMMING IT UP...

**Brand/model:** muRata ES-103A  
**Price:** C\$2900  
**Dimensions:** 6.5 x 8.3 x 12 cm  
**Sensitivity:** 90 dB  
**Impedance:** 8 ohms  
**Most liked:** Actually capable of making (some) fine speakers even finer, no detectable down side  
**Least liked:** No adjustment for sensitivity  
**Verdict:** Not for everyone, but so what?

no noise generator that can go beyond 20 kHz, and so we had to use single-frequency sine waves, which make for dodgy readings. Using both a decibel meter and an oscilloscope, we managed to get meaningful data.

The first measurement confirmed what we had expected: the Living Voice is dead flat out to 18 kHz, above the hearing limits of many people. It drops fairly sharply below that, to -9.8 dB at 20 kHz and below -21 dB at 40 kHz.

Then we added the muRata, with the positive and negative leads reversed, since that's what gave the best result. The combination was now just 3 dB down at 20 kHz, and 10 dB down at 30 kHz. Once we got up to 40 kHz, we read just -18 dB. We should add that, although our microphone is rated *accurate* only to 40 kHz, both it and the muRata tweeter showed substantial output way out to 60 kHz.

These super tweeters are not cheap even as high end tweaks go, and as you probably know that's a tough standard. You can buy a terrific pair of speakers for less. They do work, though reading our individual *Crosstalk* contributions may lead you to the obvious conclusion: it all depends on how high you can hear.

We can confirm that, as they say in the doctors' Hippocratic oath, they do no harm. In the right system, they can give you something you can't get any other way.



LISTENING ROOM

LISTENING ROOM

## CROSSTALK

This is the kind of product that leaves you short of things to write. Do you need a pair of these? Probably not.

But then again...

Whether the muRatas is worth your attention depends on a number of factors. You can hear those very high frequencies, or you can't. Your present speakers can already reproduce an extra octave beyond audibility, or they can't. There may be a better corner of your system to spend the money on, or you've already spent it.

The answers will tell you whether checking out this product is, for you, a waste of time, or a passport to a higher state.

—Gerard Rejskind

Adding a pair of these to a great pair of

speakers is like tuning your Aston Martin or your Porsche. Nobody else will *really* understand why you did it. You'll take great pains in explaining what you heard when you first tried them, and even if you're totally convincing, even if you bob up and down connecting and disconnecting them, you'll be lucky if you get a polite nod.

And yet, they *do* work. Not on all recordings, not for everyone and not on every system, I suspect, but when they do they always improve the music, and sometimes considerably. But not for every, etc...

Don't delay a speaker upgrade in favor of these, but if you have recently upgraded your speakers and you still find yourself with loose change left over, well...

—Albert Simon

I feel strange.

It's not that these little add-ons — as attractive as they are intriguing in size — are poor. It's that I didn't hear a major difference in the sound of either of our reference systems with or without them. On the Omega system I did think that the piano timbre was more in evidence, that the image was improved, that words were easier to understand. On the Alpha system, but for some extra clarity in the organ stops, the difference was almost nil.

That said, if my budget could withstand it, I might well add these devices to my system, in the hope of gaining a little bit more listening pleasure, however slim it might be.

—Reine Lessard