

## Home Audio Equipment Review



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### Weiss Engineering Medea Digital-to-Analog Converter

by Doug Schneider

In 1982, Sony delivered a swift kick that changed the direction of music reproduction forever: They released the world's first CD player, the CDP-1. Digitally encoded music for the consumer market had finally arrived.

However, among audiophiles the compact disc turned out to be one of the most controversial audio products ever produced. If tubes versus solid state, copper versus silver, the Rolling Stones versus the Beatles, and Coke versus Pepsi weren't enough to argue about already, we now had analog versus digital. And while those debates were, and still are, often heated, there's no question which side won. After CD players were introduced, LP sales dwindled as CD sales soared.

Still, while Sony's original CDP-1 was groundbreaking, it certainly wasn't *the* statement in digital audio reproduction that it was originally purported to be. The CDP-1 was quickly eclipsed -- and then over and over again. Technological advances, higher-quality parts, and things no one ever thought important in the earliest players -- including separating the single-box CD player into two units, now well known as a transport and a digital-to-analog converter (DAC) -- made such improvements to sound quality that even some of the earliest vinyl diehards began to believe that *digiphiles* may

*"No doubt, this is a reference-level component."*



### Review Summary

**Sound** "Extreme resolution"; "the Medea unveils loads of detail" -- "minute details were far more apparent, and details I never knew existed were suddenly brought to life"; but "the Medea is no lightweight; it's rich, robust, detailed, and textured -- not just in the mids, but down low as well."

**Features** "Uses two multi-bit DACs per channel in what the company calls a proprietary 'Mutual Relation Correlation System' configuration to reduce converter 'imperfections.'" "Upsampling...is performed on a separate DSP chip." Jitter is addressed via "a double phase-locked loop (PLL)." "Weiss obviously went lengths to control mechanical resonance. Rap on any part of the Medea and you'll get a *thuck* sound in return."

**Use** "The Medea also sports a "high/low" switch on the back to toggle the output between, yes, high and low." "Results will vary from system to system, so you will want to toggle between the two to determine which works best with your setup."

**Value** "Outrageously expensive, but it at least acts the part."

well be onto something.

And the improvements to CD playback never really stopped. Now it's 2003 and, yes, CD players *and* DACs have improved from even just a few years ago. As a result, I don't think you'll find anyone who will say "This is as good as it will *ever* get" about any digital product.

What I can say, though, is that the Medea DAC from Weiss Engineering of Switzerland is no doubt at the top of the current-day CD-playback mountain.

## Description

The Medea is Weiss' first consumer-based product, but certainly not the company's first audio product. In the owner's manual, Weiss explains their history of building professional-market digital products. In 1985, for example, their 24-bit 102-series digital audio processor debuted, and in 1995 they delivered what they say were the world's first "96kHz sample-rate-capable products." The Medea is simply the company's effort to enter to the home-audio market.

The \$13,500 USD Medea is outrageously expensive, but it at least acts the part. It's slick-looking and beautifully made. The outside is thick, anodized aluminum finished flawlessly in either black or silver, and inside there is a steel frame for added rigidity. The Medea is heavy, weighing more than 20 pounds, and as dead-feeling as asphalt. Weiss obviously went to great lengths to control mechanical resonance. Rap on any part of the Medea and you'll get a *thuck* sound in return.



The Medea uses two multi-bit DACs per channel in what the company calls a proprietary "Mutual Relation Correlation System" configuration to reduce converter "imperfections." Upsampling, the buzzword of digital audio for the last few years, is performed on a separate DSP chip. Jitter, which refers to timing errors in the bitstream, is another thing the Medea attacks rigorously. Weiss' solution is a double phase-locked loop (PLL) for which they make the heady claim that the Medea is "virtually immune to the quality of the audio source regarding jitter...you should hardly hear any difference between different makes of CD players or between different pressings of the same CD. Also, 'accessories' like disc damping devices or extremely expensive digital cables will not make any difference in sonic quality."

On the back panel of the Medea are four sets of digital inputs. All four inputs support S/PDIF through RCA jacks, but inputs 1, 2, and 3 support AES/EBU via XLR connectors, while input 4 also has a TosLink connector. (It's important to note that although each set of inputs has two sets of



connectors, you only use one connector at a time.) All four inputs will support sampling rates of 44.1, 48, 88.2, or 96kHz, but it's inputs 1 *and* 2 (*i.e.*, together) that also support 176.4 and 192kHz. The Medea is obviously versatile, but it must be noted that for the context of this review I only input the standard CD sampling frequency of 44.1kHz and let the Medea do its upsampling thing.

The analog outputs are also on the rear panel and include two sets of XLR and two sets of RCA connectors. As with most electronics products today, there is an IEC socket for a detachable power cord. The Medea also sports a "high/low" switch on the back to toggle the output between, yes, high and low. The "low" setting seemed to generate about the same output level as most any DAC, and that's what I used with my system. The "high" setting cranks out quite a bit more gain and will be suitable for systems that need this. Results will vary from system to system, so you will want to toggle between the two to determine which works best with your setup. But as the owner's manual wisely warns, watch out when you flip the switch. The difference in output *could* cause damage depending how loud you are playing your system. Always err on the side of caution.

On the front are four large buttons, boldly centered in the recessed middle portion of the panel, along with four lights above each button. There's also another big button over to the far left. That button is the power switch, while each of the four middle buttons corresponds to the four digital inputs. When you press one of the four, the blue light above it flashes until it locks to the incoming digital signal on that input -- providing you have a digital source connected (if not, it simply doesn't lock). I used the Medea with my older Theta Data Basic transport and it worked perfectly. I also slid the Assemblage D2D-1 digital-to-digital converter in the middle of the digital stream, and although I found it offered no sonic benefit with the Medea, the DAC still worked fine by locking flawlessly.

The Medea offered one more feature that surprised me: left- and right-channel trim pots. If you look closely at the picture you will see two very small buttons on the right side of the front panel. That's them, and they can be used to fine-tune the output of each channel. At first, this may seem like a rather useless thing -- kind of like a balance control on the DAC. However, when you consider that many high-end preamps don't have balance capabilities, this feature could come in handy.

## Review system

Although the transport used with the Medea remained the same, my Theta Data Basic (with the Assemblage D2D-1 thrown in on occasion), electronics varied from the Orpheus Two/Three S preamplifier/amplifier combo to the Zanden Audio Model 600 all-tube integrated amplifier to the Simaudio i-3 solid-state integrated amplifier. Loudspeakers were the Verity Audio Tamino, Song Audio Type II Silk DM, and Von Schweikert Audio VR-1. Interconnects and speaker cables were Nirvana Audio S-L, while coaxial digital cables were the i2Digital X-60 and DH Labs D-75.

## Sound

*Whoa!* That was my first reaction to the Medea. *Oh my* was my second. *I wonder if can afford to buy this thing?* That was my third.

I've never heard a digital processor resolve as much information as this one does. The Medea unveils loads of detail -- through the high, mid, and bass regions -- to the point where I was scrambling for disc after disc to determine if what I was hearing was some sort of illusion. It wasn't.

The opening track from Blue Rodeo's *Five Days in July* [Discovery 77013], titled "5 Days in May," features Jim Cuddy's countrified voice solidly in front. Any good digital source renders the vocal image firmly and slices it out so that it's easy to discern in the mix. *Five Days* is starkly recorded, and that's how it should be presented. But the Medea doesn't just present it as stark and sliced; it presents it with richness, texture, and vibrancy, all of which gives Cuddy's voice superb dimensionality. As a result, the voice stood out in vast relief to the other instruments in the mix, the positioning in the stage, and the distance to the other musicians.

And the air and space around the voice? I never knew it was there to the degree that the Medea reproduced it. Minute details were far more apparent, and details I never knew existed were suddenly brought to life. If Cuddy's shoelaces came untied while he was singing, I'm sure I would have been able to hear it happening. The level of detail that the Medea sends through is simply extraordinary. It affords a real reference-level look *into the recording*.

The drums were just as starkly defined and detailed as the voice -- standing on their own, occupying a distinct place *and* space in the stage. The drums had weight, too, just as they should. The Medea is no lightweight; it's rich, robust, detailed, and textured -- not just in the mids, but down low as well. And when you need power, the Medea has *slam*, and then some. "Articulate" and "authoritative" are two words to describe it. "It's got grunt" is a more crude way to put it.

The opposite end of the spectrum, where instruments like guitar and cymbals reside, also help to tell a tale about high-end DACs. A nasty top end is often what differentiates the good from the bad. And even among the ones that qualify as good, there's a fairly big leap from good to great. Cymbals through the Weiss Medea, for example, sound clean, clear, airy, and beautifully delineated -- not hard, obscured, splashy, and ill-defined as they can with some digital sources. The high frequencies that guitar emits are also a great test. At worst, the strings can get steely, splashy, and obscured. At best, *well*, they sound like guitar strings -- and that's precisely what the Weiss DAC presents. The Medea's high-frequency presentation is absolutely pristine and exceptionally detailed without overemphasizing or sounding tipped-up or bright.

From top to bottom, the Medea is a full-bandwidth digital component with exceptional detail and complete neutrality (the latter, I guess, should come as no surprise from the Swiss). I've come to regard this DAC as one that gives you more of everything, but at the expense of nothing else. But so continually taken was I by the Medea's ability to unravel detail that I turned to my old 1986 soundtrack to the movie *The Mission* [Virgin 90567-2], which consists of large-scale choral and orchestral works. This Oscar-winning recording from Ennio Morricone is not state of the art in terms of sound quality, but for almost 20 years I've heard it with every new digital source I could. And as the years have gone by it's

been like a progression up a ladder in terms of how much more music I can hear.

Early CD players and DACs were only hinting at what details were in *The Mission's* pits -- oftentimes the smallest details were obscured, difficult to hear, or absent altogether. I learned years later that those early players were missing the microscopic parts altogether, or masking them with noise. The end result was that I wasn't hearing everything. But frankly, when we hit the mid '90s, when CD players and DACs were really hitting their stride, I thought I'd heard everything that this recording offered. Today I'm still surprised at how much more I'm hearing. Current digital sources -- like the \$9800 Zanden Model 5000 Mk II DAC and the Medea -- are akin to getting a new eyeglass prescription. The things you didn't know you were missing are now clear. And the Medea, in particular, is like that new prescription fine-tuned and tweaked, with the glasses themselves cleaned to the max. That's what the pinnacle of transparency is about, and that's what the Medea can deliver.

Extreme resolution, therefore, is what helps to define the Medea -- whether it's the tiny ambient cues of the venue, the nimble decay of an instrument, the air around a voice, or the exact placement of a performer in the stage -- but that's not to say that this DAC is some one-trick pony, or some guy at the party who has only one joke to tell over and over and over again.

When it comes to other aspects of performance, the Medea is topnotch and doesn't let its guard down anywhere. At first it was hard for me to get a handle on bass presentation -- my room is rather small and the speakers I use in it are too. So in terms of bass extension, I can only glean so much. I have the \$2795 Simaudio Nova CD player here -- and it's no slouch in the bass department. I could tell that in terms of how deep and authoritative they go, each front-end is roughly equal with my setup. The main difference was that the Medea was ever-so-slightly more detailed and articulate down low -- not surprising. Both also have the *slam* I talked about.

Still, I wanted a tougher test, so I hauled the Medea over to Ross Mantle's home -- he was reviewing the Acapella High Violin loudspeakers for *Ultra Audio* at the time. The High Violins, with their 10" woofers held captive in a sealed enclosure, are not the be-all and end-all of bass reproduction, but they do go pretty deep. And with the Medea in the driver's seat, they don't only go deep, they go deep with power and authority. The Medea sounds effortless, sort of like a big solid-state amp with power to spare. Lots of CD players and DACs present bass frequencies strongly, but not all of them have the impact the Medea does.

### **In comparison**

Then there are the midrange and highs. In this area there's probably no better comparison than the ultra-pure-sounding tube-based \$9800 Zanden Audio Model 5000 Mk II. The Medea edges the Model 5000 Mk II in terms of resolution -- albeit at a price that's over 30% higher. The Medea simply presents more detail, more of the subtle stuff, and not only can you hear a little bit more, you get a slightly more specific soundstage and greater recreation of space in those recordings that display such. The Weiss can also out-slam, out-weight, and out-articulate the 5000 Mk II down low. As for the midrange on up, which one is better or worse is not as clearly defined. Each DAC renders things slightly *differently*, an

important point.

The Model 5000 Mk II sounds crystalline, with a purity about it that no DAC or CD player I've heard matches -- none. The Medea, though, surprised me because of how clean it sounds. There isn't a hint of grain or edge -- unless, of course, the recording has it -- similar to the 5000 Mk II. Where the two DACs differ mostly, though, is in terms of *fullness*. The 5000 Mk II projects the sound just a little more in the mids and highs, with a bit of what Ross Mantle calls *voluptuousness* -- a controversial term in [SoundStage! Network](#) inner circles, I'll have you know. Some may call this *romanticizing* the sound, while others may say it has a little bit of *humanness*. I happen to call it fullness, and Ross calls it voluptuousness.

Whichever way you want to say it, the Zanden Model 5000 Mk II has just a wee bit more of *that* in the mids and highs, and maybe that's why I still label the 5000 Mk II as the purer of the two. The 5000 Mk II has a natural ease about it, a bit of its own "voice," if you will, that makes it a pleasure to the ears -- not to mention the eyes with its jewelry-like casework.

But don't get the idea that there's a problem with the Medea. The Medea is just different, being more concerned with precision -- extreme precision, in fact, with accuracy and neutrality that's makes its pro-market lineage all the more apparent. In fact, the Medea is a "laboratory-grade" digital-to-analog converter for the home-audio enthusiast. You want to hear *everything* on your CDs? That's what the Medea will give you.

## Conclusion

The Medea has strengths that can outclass much of its competition -- namely the retrieval of detail, its top-to-bottom *cleanliness*, and its bass authority and slam -- and really has no weaknesses. At worst, it simply meets its competition head-on and you can call it a draw -- not something to snicker at since its "competition" is the best digital sources in the world. Perhaps there will be those who don't want to hear something as ruthlessly revealing as the Medea, but to me that's what the pursuit of high-end audio is really about.

If there's anything to criticize, it's certainly nothing to with the sound or features or the way the Medea is built. It's the price. In the US, the Medea retails for 13,500 US dollars. In Canada the retail price is 14,000 Canadian dollars. That's a huge wad of cash, even for a DAC that some will call the best there is. Then again, these days there are some people who think \$100,000 speakers and \$30,000 amplifiers (or more!) are sane. By those standards, perhaps, the price of the Medea may actually seem tame.

So apart from that single caveat -- which is more or less my own perception of *value* in the marketplace, and not necessarily everyone else's -- I can say that if you want a reference-level DAC that will allow you to hear all that CD playback can offer, then most certainly audition the Weiss Medea. No doubt, this is a reference-level component.

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**Weiss Engineering Medea Digital-to-Analog Converter**

**Price:** \$13,500 USD.

**Warranty:** Three years parts and labor.

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