



# THE WADIA 17 ANALOG TO DIGITAL CONVERTER:

System Building by the Numbers

by  
*Wayne Donnelly*

Article reprinted by permission of Fi Magazine  
Publication Date: October 1996, Volume 1, Issue 8



## ***Fi: The Magazine of Music and Sound***

is a component that should be added to every sound system.

Featuring the world's best writing on audio and music, *Fi* brings readers more of what really matters. For subscription information call (800) 779-HIFI (4434) or write to:

***Fi: The Magazine of Music and Sound***  
P.O. Box 16747  
North Hollywood, CA 91615-97644

---

So, what if you ditched your trusty preamp, converted your phono and any other analog sources to digital (gasp!), and drove your amp from a CD player with a digital volume control? As I suggested in reviewing the Wadia 16 CD player (*Fi* Issue 4, May 1996), this concept is likely to take some getting used to for many audiophiles, especially vinyl lovers who haven't been won over by the sound of CDs. (The Wadia 16

piece is a useful supplement to this review, as the 17 is designed to feed into the 16 or into any Wadia or other DACs which have digital volume controls.) But before you hold up a cross to ward off digital evil, bear with me for awhile.

A Quick Tour

The 17 is a compact component, about the size of a typical solid-state preamp, which digitizes line-level analog signals at 20-bit resolution. The back panel holds four analog inputs and six digital outputs; the front has buttons for phase inversion, input selection, and choosing either the CD-standard 44.1 sampling rate or the higher-resolution 48 kHz. The Wadia 16 has 48 kHz capability, but the choice allows the 17 to also feed either a DAC with only 44.1 or a CD-R device. Level-adjust LED ladders controlled by up and down buttons let you dial in separate settings for each source input. For phono, I found that using a mono LP made the process very easy; when levels are set too high, overload LEDs light during peaks. A nice touch: you can set the left channel, then match the right to it by pressing the up and down buttons simultaneously for a couple of seconds.

#### Listening to the Wadia 17

I listened to the 17 with its sibling 16 primarily at the 48 kHz setting. I spent only a little time with a tuner and a cassette deck as sources; it was soon evident that the 17 preserved their sound intact, including an accurate rendering of cassette tape hiss. On to phono—the real test. Because the 17 requires a line-level input signal, a phono preamp is needed for playing vinyl. The 17 illuminated the differences between the Krell KPA (more bass crunch, a slightly grainy mid/treble) and the Sonic Frontiers SLP-1 Signature (smoother textures, slight dynamic compression). Through either phono stage, the 17 also delineated the different sounds of Versa Dynamics 1.0 and the Townshend Mk. III Rock/Rega RB-300, using same Cardas Heart cartridge. In general, the Versa throws a wide, "airy" soundstage, while the Townshend/Rega combo presents a slightly narrower, but more focused stage, with individual images more solidly reproduced within that stage. I'll go into more detail on these differences in my upcoming review of the Townshend.

A stiffer test, I thought, would be listening for differences in recording ambiance. For instance, I listened at length to Jack Pfeiffer's RCA Living Stereo productions in the Classic reissue series, as well as reissues of some of Kenneth Wilkinson's great Decca recordings. Comparing the Classic vs. the Chesky LPs of the Reiner/cso Scheherazade, the differences remained consistent with what I had perceived with other high-resolution systems. Through all of these sessions, I heard no gross reductions of ambiance or character, no additive digital grain and glare—at least in 48 kHz mode. Switching to 44.1 kHz, I was able to detect some flattening of dynamics and reduced spaciousness on several records, somewhat akin, in fact, to the kinds of differences I've often heard in comparing CDs to LPs of the same performances. Without being too reductive here—there are many factors beyond the limitations of the sampling rate that could account for sonic dissimilarities—my listening did suggest that the increment of resolution added by the 48kHz setting results in a subtle but material improvement in the ability of the 17 to reproduce high-quality LPs.

During the last few weeks of the review process, I extensively compared the Wadia combo with a complete Sonic Frontiers front end. Common to both setups were the Townshend turntable and the SLP-1 Signature phono stage. The Sonic Frontiers system included the SFF-1 transport and SFD-2 Mk. 11 DAC feeding the SFL-2 Mk. 11 line stage—all well-reviewed products with a reputation for superb price/performance value. I thought this was a fair shoot-out, as the prices of the two systems are very close overall.

The sound they delivered was also very close in overall quality. The Sonic Frontiers gear is very balanced and neutral, with excellent dynamics at both ends of the scale. It projects a more "objective" and uncolored sound than many tubed components, and is also quieter than the norm for tubes. But the Wadia setup had an even quieter, blacker background, and had more powerful and extended bass response.

Playing the Classic and Decca reissue LPs, as well as some of Keith Johnson's superb Reference Recordings vinyl, the Sonic Frontiers system's presentation was slightly bright and forward, with a subtly greater sense of ambient air and bloom, in contrast to the Wadia's more distanced, grounded, and weighty presentation. "Aha," says the analog guy. "Just what we've always known - digital loses the ambient subtleties we love vinyl for." But I'm far from sure that that conclusion is warranted.

We know by now that a generous amount of second harmonic distortion is one of the qualities of single-ended amps, and of some other tube amps, that contributes to their sensuous, highly involving sound. Now, the Sonic Frontiers gear is engineered to impressive specs, so I'm not suggesting that its sonics reflect any gross distortion. But the Sonic Frontiers chain has several analog gain stages compared with Wadia's one—the phono preamp. Is it possible that some of the warmth and bloom we treasure from vinyl is in some degree attributable to the accumulation of euphonious noise in the successive gain stages of the analog reproduction chain? And that the slightly cooler Wadia presentation is perhaps closer to giving us the objective truth about the music in the grooves?

I don't know the answer to those questions. But the differences I heard between the Sonic Frontiers and Wadia-based systems were never of night-and-day magnitude. Rather, they were on the order of what one might hear between any two competing high-quality components—such as the Sonic Frontiers and VTL monoblocks which both saw considerable service throughout the review period.

My own preference, after much vacillation, comes down uneasily on the side of the Wadias, principally because of the relaxed quality I noted earlier in the 16 review. The 17 seemed to deliver that feeling in equal measure. But on some records I preferred the Sonic Frontiers' greater midrange and treble energy, and I'd have no quarrel with anyone who preferred that system.

The lesson I learned from this very interesting last few months is that it may be time for us analog-lovers to reexamine our prejudices. The Wadia components prove to me that the word digital cannot automatically be associated with sonic degradation—with the flat perspective, absence of color, and loss of emotional impact that we've complained about with CD at its worst. I found most encouraging the sonic superiority of the 48kHz setting over 44.1 kHz when playing LPs through the 17. That suggests to me

that the doubled resolution looming on the horizon with DVD may in fact give us a fully satisfactory digital standard. Time will tell, of course-there's still time for the electronics giants to screw up DVD.

But at the very least, my experience with these components leads me to conclude that the Wadia 17/16 combination is a well conceived and viable alternative to analog-preamp-oriented system-building, even if vinyl is a key source. And, given Wadia's track record for supporting their line with upgrades (see the sidebar to my Wadia 16 review), it seems likely that these components will be kept competitive as the standards for digital sound advance. In any case, they're worth a long look, and listen, if you're building a system in their price range.

---

Manufacturer:  
Wadia  
1556 Woodland Drive  
Saline, MI 448176

Designers: Wadia development team

## SPECIFICATIONS

Source: Manufacturer loan Serial Number: 0082

Warranty: Five years

Analog Inputs: 4 (1 balanced, 3 unbalanced)

Digital Outputs: 6 (3 ST Optical, 1 BNC SP/DIF, 1 AES/EBU, 1 Tostink)

Resolution: 20 bits maximum

Dynamic range: 107 dB

Conversion method: 1-bit/64 times oversampled

Frequency response: +/- 0.005 dB, 0-20kHz

Signal inverting: digital domain

Input range level: 0.1 - 3.16 VRMS (-20 - 10dBV)

Channel isolation @ 1kHz: >100 dB

Sampling Rates: 48kHz, 44.1kHz

Dimensions: 3"h x 17"w x 8.75"d

Weight: 15 pounds

---

[company](#) | [products](#) | [technology](#) | [news](#) | [dealers](#) | [support](#) | [library](#) | [links](#) |

[product registration](#) | [contact us](#)