

ANALOG vs. DIGITAL:  
no clear victor

Not long ago, I was saddened to learn that one of my favorite audio magazines, *The Tracking Angle*, had bitten the dust. I liked it because it catered to vinyl enthusiasts, those who believe that records deliver better sound than compact discs. The magazine's anti-CD editorial stance manifested itself most entertainingly in its record reviews, in which statements such as "The sound on the original LP...is open and transparent with tremendous focus...The CD loses much of the sonic magic" (Otis Redding, *Live in Europe*) were de rigueur.

I'd have to say I subscribe to the pro-analog view, with the qualification that superior high-end phonographic and stereo equipment is required to realize the difference—precisely the reason most people, who have never experienced the awesome sound of analog audio on really good equipment, believe the vinyl enthusiasts are crazy. Not yet having the kind of disposable income that would allow me to acquire that equipment, I devote the great majority of my eartime to CD listening, opting for its superior convenience, portability, and noise-free digital reproduction.

In view of my pro-analog leanings, it may be surprising that I yearn to replace my four-track cassette machine with a digital hard-disk recorder in my home recording studio. So far, only expense has prevented me from doing so; however, with the cost of hard-disk and Zip-equipped recorders coming down, the day I retire my analog recorder is coming ever closer.

Why? The promises of hiss-free recording, practically unlimited "virtual" tracks (as opposed to the four on my aging and rather hiss-prone cassette deck), the precision of digital editing, and a dramatic sound-quality boost are compelling enough reasons for me. My one caveat is the highly subjective perception of the shortcomings of digital sound as illustrated in the LP versus CD debate.

Unless you happen to own top-of-the-line turntables and stereo systems for playing your records, CDs are probably going to sound better. They offer clear, static- and scratch-free sound reproduction. Moving from track to track is much easier and quicker than with records and tapes. And they can hold much more music on a smaller, more portable platter.

So what are the benefits of analog sound over digital? There's the "warmer" and "more open" arguments, as well as "smoother" and "less harsh." Even on the modest phonographic equipment I own—and despite the fact that major strides have been made in digital mastering—I've discovered in general that I can listen to analog sound longer than I can to digital. Digital's "ear fatigue" syndrome has me stopping an album midway through—a disturbing phenomenon for one who loves music as much as I do.

Famed record producer George Martin gave an overview of digital recording in his book *Making Music*: "Ordinary [analog] recording stores the electrical impulses (which have

been converted from the pure aural vibration by the microphone) on magnetic tape as magnetic variations in the coating. Digital recording, on the other hand, analyzes the frequencies constantly and stores the information as binary code on tape. If you can imagine 'stop-framing' a slice of sound, analyzing it in terms of frequencies, converting the information into numbers to store on tape and doing that 50,000 times a second, that is what a digital recorder does. And on playback, a reverse process takes place."

The trade-off, analog enthusiasts say, is the loss of a natural, organic quality that many audiophiles say they hear only from analog sources such as LPs and tapes. Rock icon Neil Young has been one of the most outspoken opponents of digital audio (surprising, since he has recorded many of his albums on digital equipment).

Young has acknowledged the benefit of hiss-free recording that digital technology offers, with the caveat that "along with the hiss went depth of sound and the myriad possibilities of the high end where everything is like the cosmos, exploding stars, echo. From the 80s on, no records contain that kind of quality any more and those are the very things that stimulate the human body into reacting, feeling, and enjoying music."

Young's allegations played a role in a study at the Berklee College of Music in Boston, where Dave Moulton studied analog and digital sound and, according to Young biographer David Downing, "came down in favor of digital as cheaper and easier to use." At the same time, Moulton cited Japanese research showing that digital music's reduction of frequency range "lessens both measurable brain activity and the listener's conscious awareness of interest, satisfaction, and beauty."

George Martin acknowledges in his book that many musicians and listeners are "uneasy" with digital audio. "The absolute ceiling of 20kHz in frequency range may have something to do with that, but my personal aural equipment is not capable of hearing such high frequencies (very few people are blessed or cursed with a receptivity beyond 16kHz), so digital presents this one with no problems."

What's the bottom line? That's for individual listeners (and their ears) to decide. I continue to believe that analog sound can outshine digital in the right circumstances, but I'm still hoping my next major purchase for my home studio will be a digital hard-disk recorder. It's my best chance for dramatic sound improvement at minimal expense. However, if there's anyone out there willing to finance the installation of a professional-quality analog studio in my home... **EW**

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