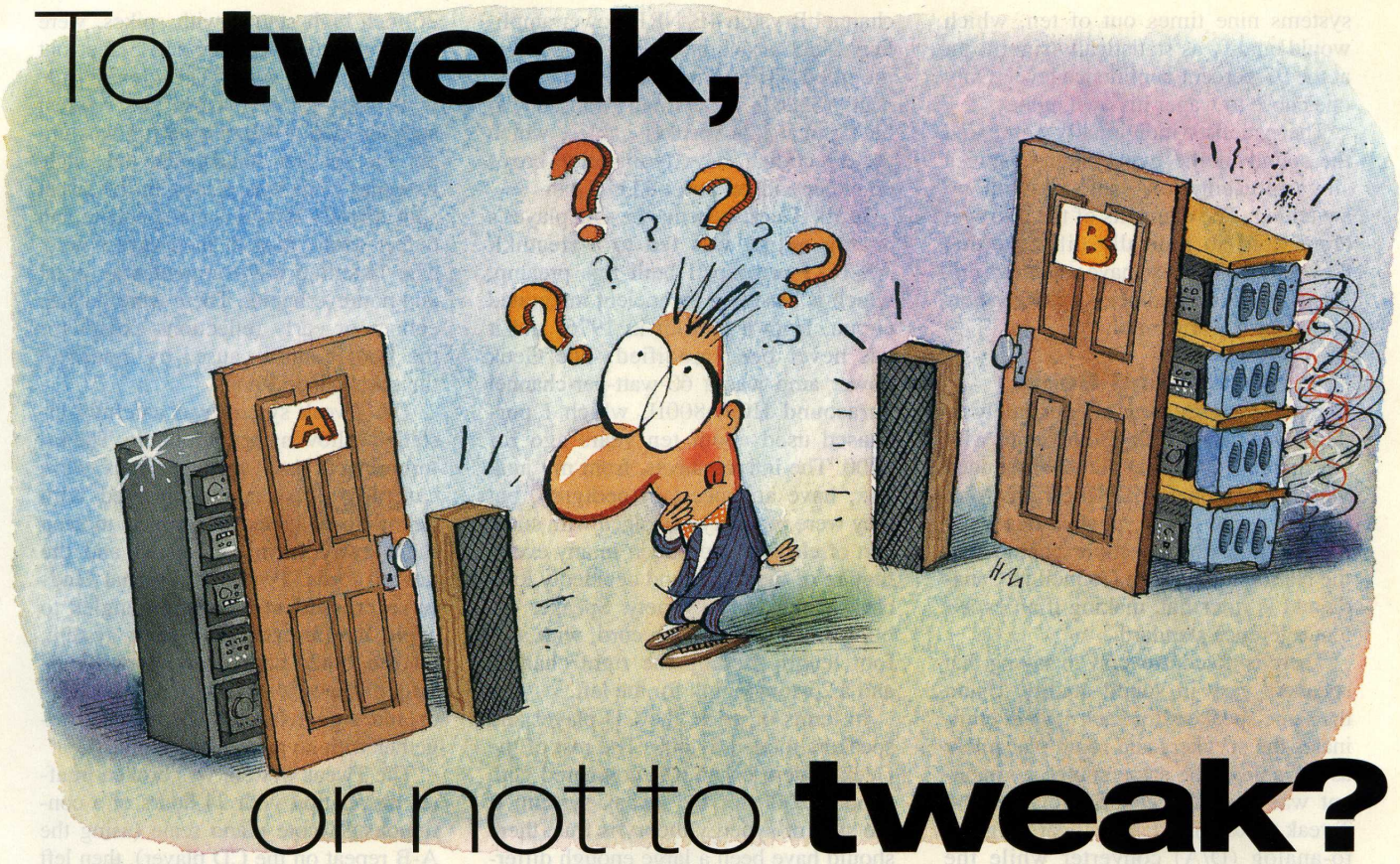
# To tweak, or not to tweak?




## Could our listening panel hear the difference?

I have conducted a number of high-sensitivity, controlled listening tests over the past dozen years. Many, if not most, of them have come about because of challenges from enthusiasts who steadfastly maintained that a certain amplifier or cable provided a special path to audio nirvana. So far, no one has ever demonstrated scientifically that any single amplifier or cable — unless it's broken or exhibits a nonliner frequency response — has the slightest effect on sound quality. No one. Never. The results I've gotten have been duplicated time and again by colleagues such as David Clark, Brad Meyer, and Ken Pohlmann in their own tests for *Stereo Review* and other publications.

Although we have long known that sensitivity to audible differences is enhanced when comparisons are made with minimal delay between them, some continue to argue that any sort of switching device inevitably compromises subtle details of sound reproduction. The arguments continue even when we consider that every music system contains *some* type of switching, if only in the source selector.

The newest criticism posed to audio realists is based on a theory of system synergy. Although an *individual* amplifier or cable may not have audible effects, critics say, a *system* full of various tweaks will deliver improved sound quality because of the synergy of combined elements.

Indeed, the process of matching wires and other components to each other is described as an art, and proponents of audio synergy claim that the search for an optimal system is never-ending because there is no scientific way to predict how components will react with each other. If the components don't necessarily change the sound by themselves, and there is no way to predict in advance how they will sound together, then obviously the theory can only be tested by trial and error, and no one trial can ever be definitive. If any one combination of components and "tweaks" fails to exhibit an improvement, well, you just have to keep trying. Boy, talk about insulating a theory from criticism!

by Tom Nousaine

Clearly, there's no way to disprove the synergy "theory" because it's not a theory at all, but an article of faith. Nevertheless, for those not already committed to this faith, I worked out a test that should at least settle whether synergistic effects are *likely*. If we carefully compare an expensive, "tweaked-out" high-end audio system with an inexpensive, carelessly assembled one, we should be able to hear a consistent *difference*, right?

In order to test that hypothesis, I assembled a panel of seven listeners, all but one male. Six are hard-core audio enthusiasts, ranging from a 29-year-old technician to a hi-fi salesman in his mid-40s to a classical-music DJ in his late 50s, who own over-the-top high-end systems and maintain a keen interest in high-performance sound reproduction. Our seventh listener, a junior-high-school teacher, has an active interest in audio but no high-end tendencies. All the panelists were offered either a straight $20 for their participation or the opportunity to bet $20 against $100 that they could correctly identify the

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