

Edward Tatnall Canby

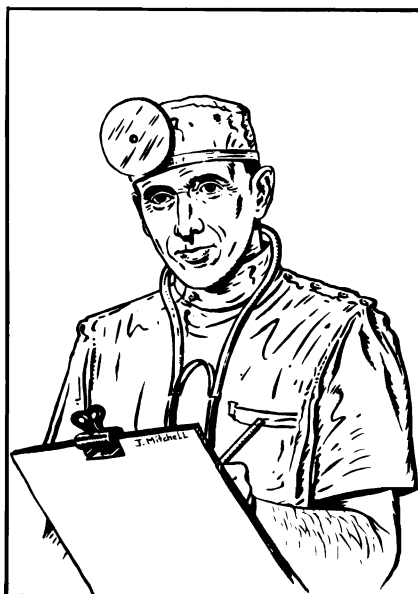
THIS MAGAZINE is Philadelphia-based, whereas I am New York-based, and this is often a great convenience. True, we have a busy telephone tie line from one city to the other, which makes talking with the office a bit like talking to my neighbor down the road on my Connecticut party line during weekends. But the Editor is unable to attend NYC meetings and press conferences via tie line. So either he trudges resignedly down to the RR or bus station and makes a long day of it, or he gets hold of one of us up in the Big City. Fun and games. I've got a pile of press stuff a foot high in front of me now, and my insides have been pleased by more snazzy eats and drinks than you can imagine in these last months.

And there's the AES Convention, too, almost next door to me, relatively speaking. I hung out there for days at a time last fall. (The Editor had to take a hotel room.) Practically had my brains frying—there was so much to be learned, by anybody interested in what is new and/or controversial in this *very* controversial period of audio history. The AES Conventions are for me like going to college again.

Bits of all this accumulation and more will be spilling out here, as space allows. I will *not* ask for an entire issue—which might be necessary to cover it all. That would be impractical. Because as we become a bigger magazine, space becomes more valuable, *ergo*, harder to get, this being a curious application of the old law of diminishing returns! The mature Canby, in any case, is less longwinded than the youthful version of 24 plus years ago, when we started. So—to business.

Big Bang

For my ear, the most totally sensational demonstration at last autumn's AES meetings occurred in a hotel room upstairs from the main activities, and nobody was around except the inventor and his helpful wife. I walked in curious; I left aurally shaken. Yet I heard nothing more than a couple of drum beats, recorded on tape. Just what the Burwen Noise Eliminator will do for the larger audio world is not yet clear. But its impact on the immediate ear is incredible. Merely to read about it (AUDIO, June, 1971) in the author's measured words isn't the same at all, through no fault of his, needless to say.



Just “picture” it audibly in your mind. Walk in and sit down before a more or less standard-looking stereo hi-fi living room set up, with a tape machine attached. Not a pro monster, just one of those that habitually play at 7½ or slower in plenty of homes. Off to the side is the “works” in question, a flat, thin module designed for very minimum rack mounting, a couple of inches high. The tape is turned on, with the familiar modest *clonk*, and the reels turn, I wait.

But is the power on? Are the electronics functioning? Not a sound. Not even a *trace* of *any* sound. Just like my old Ampex when the electronics fuse blew, but the mechanical-drive fuse didn't. All machinery working. No sound. Dead. Just as I was about to open my mouth to ask—**BAM!!!** The most horrendously loud kettle drum (or was it bass drum?) explosion I've ever heard. Then, silence. And then again, **BAM!!!**

There was more, but this was all I needed. Here was an audio phenomenon that in at least a half century I am sure nobody had ever heard before. Not in *that* ratio between silence and sound, S/N if you wish. And not with such extraordinary *cleanliness*. Takes me awhile to write all this out, but the entire impact of this device, intellectually as well as sonically,

hit me in a half second, and no two ways about it.

We all know the problems that have plagued the difficult art of compression and/or expansion of the audio signal over these many long years. We remember the early crudities and we still know the sounds of the various overshoots and undershoots and so on that happen, even when they shouldn't, when the pure audio signal is tampered with as to its natural volume levels. We recall (we older fans) the excitement in the 1940s over the H.H. Scott Dynamic Noise Suppressor circuit, designed to take hiss and scratch and rumble out of 78 disc reproduction. (It did, if you got all the gates and thresholds and levels just right.) And then there was the later Fairchild Componder, home-intended (which, alas, I could never make work for my own home listening). In the pro area there are vast quantities of C/E equipment and always have been. We are all too familiar with, shall I say, the compansion, that goes on the air today to produce a maximum signal and, hopefully, so much more moola. (Cash, to you.) I am shocked, regularly, to hear the incredible distortions perpetrated by some of our pop AM stations, whose names I will not mention. Singing (or speaking) voice over music—and the music wobbles in and out, up and down, as though somebody had loaded the musicians into a brace of jeeps with oval wheels bouncing over a corduroy road in the jungle and said, “Now, P-P-PLAY, boys. . . .”

And, finally, we are very much aware of Dolby. Dolby did it right, a few years back, as far as combined compression/expansion is concerned, and the Dolby people have since developed their basic idea into a world-wide integrated system, now semi-standard and tied into innumerable audio operations. Does Burwen challenge Dolby?

In some ways, yes. Dolby's background silence reflects S/N gains of 10 dB and more, without audible signal change, in the areas where the A and B circuits operate. Burwen's flatware, inserted in your audio, will give you 35 dB, and that's a lot. Even more impressive, though, is that cleanliness of sound. As far as my ear could tell, it was absolute. Drum transients! A very tough test, and I heard no dif-

ference between the treated and untreated drum explosions. Burwen, like Dolby a few years ago, just seems impossible. But these are the things we do today with solid state technology. The Burwen "poop" cites a test, channel 1 into channel 2, that shows an "instantaneous error" of not more than +0.5 dB for steady signals and +1 dB for transients. A "Precision Rectifier" does it, and the individual component modules in the system run accurate to a tenth of a dB, with harmonic distortion in the 0.01 dB range. Far be it from me to quote further specs. But my ear, unequivocally, says *good*.

Also I leave it to you to delve into the technical differences between Dolby and Burwen (they are very different, as a matter of fact). I merely suggest that the two systems are by no

means mutually exclusive and may very well work together, most likely in tandem. (How else?) Burwen might be used for basic noiseless recording, allowing a 110 dB dynamic range on your master tape, then Dolby for the usual transfers on down the chain to the ultimate audio destination, with minimum S/N losses en route and maximum interchangeability. It would seem unlikely, at this point, that Burwen could directly challenge Dolby as a new over-all standard. Dolby already has such a solid position of usefulness and practicality, in a thousand interchangeable areas, that the system is not going to be tossed out overnight under any circumstances at all. Besides, as I say, the two systems are innately different in technique and not directly competitive in practical terms. Room for both.

Burwen has a Dynamic Noise Filter too, a one-shot affair (not the dual mirror-image system characteristic of the Noise Eliminator and of the two Dolby circuits) which seems to be the latter-day successor to the H.H. Scott circuit. Also comes built into an amplifier. If the Eliminator weren't so sensational, I surely would be spending time on these; but somehow, I can't get my mind off that big **BAM!!!** Really hit me.

Note, you hi-fi bugs, that these Burwen products aren't exactly intended for your Aunt Sarah's portable Sony, or something. If you have an extra thou on hand, you can buy yourself a channel of Burwen; two cost more. If you are a crazy four-channel fiend, it'll be \$5,700, please. (But I'll bet they come out with a Consumer Eliminator one day soon. If you see what I mean.) **AE**

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