Panther Electronics C.A.T.S. Headset

The February 2004 Aviation Consumer caught my attention with an interesting piece on low cost ANR headsets.

The article had a short note about the in-the-ear units but offered less than a paragraph. To quote, "…we've heard from many readers who rave about the new in-the-ear lightweight headsets on comfort grounds alone."

Count me in with those who rave about them, but for other reasons, too.

The article goes on to say they offer no active noise canceling at all, which is true, but this comment leads you to believe the passive noise canceling is not as good as active noise canceling. Quite the contrary. Of course, having both types of headset, I can compare for myself. And the ANR price is in the same ballpark as the Panther C.A.T.S.

My ANR is the Headsets, Inc. kit installed onto a David Clark H10-40. Installed easy enough, works pretty good. ANR is a must for noisy airplanes. The combination of the ANR unit with E•A•R plugs does a very good job of killing off the high and low unwanted noise. Must admit, though, I find earplugs uncomfortable for long periods of time. Foam earplugs cut out the highs, ANR cuts out the low noise.

Still, I find the in-the-ear C.A.T.S. the better headset. For the most part, I like the crystal clear sound the best. They're good for Com and they're quiet, too.

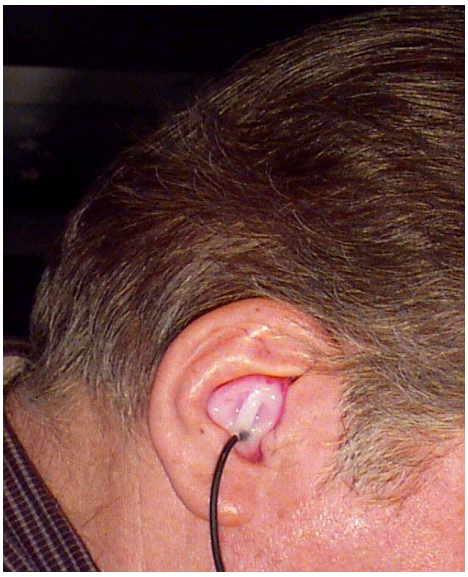
The article dwells on the weight and clamping of the big units, which doesn't bother me all that much, for short flights. Of course after one of my 6 to 8 hour high altitude marathons, the Dave Clarks feel awful. The C.A.T.S. are absolutely featherweight and feel quite normal. But I must wonder if they will feel uncomfortable after so many long hours, too.

What is it?

C.A.T.S. stands for Cranial Audio Transmission System.

The Panther Electronics C.A.T.S. headset system fits completely in your ears like two hearing aids. No boom Mic. A molded ear pattern is used for custom fitting to the ears of one person. This "perfect fitting" earplug has exceptionally good noise attenuation. I find it absolutely astonishing.

The earphone is in one ear, the Mic in the other. In flight I never notice the lack of a second phone, as the sound rattles around inside my head, so I really can't tell where it's coming from. Technically speaking, the Mic voice audio comes up from your mouth, through your Eustachian tube and into the ear on the Mic side. Could be that the received audio does something similar. Or maybe it is resonance inside my skull. Whatever the scientific reason, it works and sounds just like there are two phones in my ears.



Panther tells me they are working on a double-phone set, which I guess, is for stereo music. Otherwise I find it unnecessary.

Throwing in my personal opinion here, I use one headset for avionics, and a totally different one for music. Unlike the current trend in audio panels, I absolutely refuse music being on my avionics stack. So much so that my Comanche is wired with separate jacks for music and avionics. Yes, there is an exception, (before I eat too much crow) I listen to football games and sometimes news on the ADF.

Moving right along, the headset "bag" is a little prescription sized medicine bottle indicating how small and lightweight they are. Neat. It could fit in your pocket or stow in your flight bag if you move from plane to plane.

Each ear plug wire is connected to a mute switch for when you sneeze or cough or clear your throat, so folks on the intercom won't hear you. Doesn't work for me, I forget every time. If the wires to the clip-on mute switch box don't tug, I don't remember it's there.

The mute switch must clip to your shirt, so you might want to wear something besides a T-shirt to fly in summer. Maybe it could clip to a shoulder harness. I like to wear T-shirts when I fly, and I don't have a shoulder harness. (All that could change.)

From the mute switch box a single cable wire continues on to a magic electronics box. As far as the pilot is concerned, this blue box is merely a volume control. It clips to your belt or seat belt or even the airplane's side panel pocket.

I have never before had a volume control attenuate the audio sound as good as this one does. When sitting in another airplane, I usually find the volume in my Dave Clarks way too loud. Whether the pilot sets the volume up too high or there is an electronic mismatch in our headsets, the old headset volume knob doesn't do the job. This one does.

From the electronics box on your seatbelt, a coiled wire plugs into the standard instrument panel Mic/phone jacks just like all the standard headsets. It's no more complicated. No extra hanging wires, no hanging battery box like my current ANR set has.

Personal Experiences:

For anyone serious about buying, it's only fair to give you my initial experience with the system. I'd hardly call it love at first sight.

My biggest angst was in making the ear molds. I just don't like people sticking goo into my ears.

The system comes with a video explaining the ear molding process. A lady sits patiently and quietly in a chair while the "operator" squeezes silly putty into her ears. Yeah, right!

As it was, I had to be held down while Marty (the wife of salesman Ron Novotny, a member of our ICS) squeezed the putty mixture into a syringe and then pumped it into my ears. I squealed and squirmed through the whole process. Most uncomfortable feeling I have felt in a long while. (Except the prep for a colonoscopy.)

To be fair, let me compare with contact lenses.

Some people can wear contacts, others are too sensitive. Me? I cannot. I can't bring my hand anywhere near my eyes to insert a contact lens. When a doctor put one in my eye to try it, I immediately wanted it out. Perhaps a parallel exists between my eye and ear sensitivity. For the people who wear contacts or hearing aids, the ear mold process may be absolutely nothing.

All right, that part's over. It's only a memory. They arrived in the mail a bit late, 8 weeks later.

Now to insert them: For the first insertion they send you some slippery stuff in the kit. I put plain water in my ear instead, and shuddered as they virtually sucked right in. Right away, you can tell they're a glove fit, and very quiet against outside sounds.

But therein lies another of my initial problems. I found awkward the internal cranial sounds in my head. Hearing my own speaking voice was near dreadful, not like normal sidetone at all. The earphone worked on my KX-99 receiver very well, but indoors I could tell the sound came into one ear only. It was not what I expected at first, but right up front, I admitted to myself that I didn't buy this system for my quiet living room. Natch. It arrived in the mail and I was anxious to test them.

Forget all that. If you don't want to make my mistakes, take them out to the airplane for the first time and try them in the setting they were designed for. In a noisy airplane environment.

My initial discomfort of sticking things in my ears is nearly over. Actually, after showing them off to every pilot in my office, insertion and removal quickly became easy.

Growing Pains:

At first these C.A.T.S. had feedback on some radios, while working fine on others. My King KX-99 handheld radio had a whistle or screech when I pressed the PTT switch. I sent it all back to them, the C.A.T.S. and my KX-99 plus accessories.

Panther Electronics treated me well. In a few weeks they came back working fine. The electronics are revised and I'm sure new ones will all work on any radio all the time like my current set does now.

I hate to be the first kid on my block to have a new toy. Ugh! Get the bugs worked out before you show it to me, please.

Using them Properly:

Let me say that these gadgets work great in the airplane. They are not bothered by a noisy vent system like my other microphones are and communication is crystal clear. It's nice to hear ATC answering every time. That's the best sign of really good Com transmission.

I find that I am reaching for a boom Mic that isn't there. Silly, but that will eventually stop.

Soon I'll check them out for comfort on a long range IFR flight, but I'm sure they are perfectly suited for heavy-duty use.

There could be a downside in using them for light duty. Normally, on VFR flights, after leaving the pattern, I tend to take off my headset to talk with a passenger, or put on the stereo set. It is more of a process to remove earplugs than to just lift off the Dave Clarks.

Summarizing the Pros and Cons:

Pros – On the good side;

Superb audio, both talking and listening.

Wonderful noise attenuation. Very quiet.

For most of you, I can stop right here. No other headset can match them, not even the Bose, IMO.

As for the little stuff;
The volume control ranges from loud to fully quiet. Not such a small feature for me, as I sometimes ride in noisy 172s and Cherokees. I like this trait.

It fits in a small package, a "prescription medicine bottle".

Very light weight.

Once inserted, it's not uncomfortable, even for long hours of use.

No batteries involved.

Cons – On the down side;

I don't like the feel of someone stuffing putty into my ears. If it doesn't bother you, call me a sissy. Once the initial mold is made, it's over. You can forget that quirk from then on.

I feel some pressure when climbing and descending. Normally I don't have trouble climbing to FL 180 but I DO remove my E•A•R plugs coming back down. Would these too be better removed for the descent? They tell me the altitude equalization comes from your throat through your Eustachian tubes. Tune in later to find out.

They're still new. Inserting and removing them takes patience.

Bottom Line:

I like these gadgets a lot. All in all, the better communication is well worth it, both in purchase price and the discomfort of making the ear mold.