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STATE OF THE ART

Headphones to Shut Out the World

By [DAVID POGUE](#)

As you may have heard, air travel this summer isn't going to be pretty.

You'll be crammed in, delayed and bumped — if you're lucky. If you're unlucky, your flight will just be canceled.

Fortunately, not all of this misery is out of your control. Take, for example, the noise-canceling [headphones](#) that Bose began making popular a few years ago.

Until you try them, you won't believe what a difference such headphones can make. As tiny microphones monitor the mind-numbing roar around you, circuitry in the device creates a sound wave 180 degrees out of phase with the original sounds. Presto: the roar of the engines is magically subtracted from the sound that would otherwise have ground away at your well-being for six hours.

You can wear them just to be more peaceful, or you can connect them to a music player, DVD player, laptop, or the plane's audio system. Because the engine roar is missing from the mix, you can enjoy enormously improved audio quality at substantially lower, safer volume levels.

Nobody disputes the quality of Bose's market-leading phones. But wow — \$350 a pair?

Little wonder rival companies are now trying to bring you similar peace in the stratosphere without propelling the price up there, too. Panasonic, Sennheiser, JVC, JBL, Audio-Technica, [Logitech](#) and Able Planet have now joined the noise-canceling marketplace, with hopes of canceling a few of those Bose sales along the way.

There's only one good way to test these headphones: wear them on planes, trains and automobiles. So when a three-leg trip loomed, I grabbed a carry-on bag and crammed it with 10 pairs — 2 Bose models and its 8 rivals.

Airport security probably thought I was a little unbalanced, and my seatmates thought I had some kind of attention deficit disorder. But in the name of science, I shrugged off the humiliation and proceeded with my A/B test. Or, rather, my A/B/C/D/E/F/G/H/I/J test.

Most of these headphones are powered by a single AAA battery. Each comes in a carrying case that keeps the devices together with their accessories: the miniplug cable for your music or DVD player, for example, and the adapters for quarter-inch phono jacks and dual-pronged airplane armrest jacks. Most of these cases exude elegance but take up a huge portion of your carry-on bag.

The “active noise reduction” technology used by these headphones generally cancels only lower frequencies. Higher ones are difficult to stifle electronically. Whatever upper-register noise cancellation you get from these headphones, therefore, comes from the seal they make with your ears, which is “passive noise reduction.”

None of these products touch the sound quality of high-end audiophile headphones. Some people say, for example, that they can hear a faint hiss in some noise-canceling headphones when music is not playing, although my 44-year-old ears couldn’t detect it.

Here are the contenders, from least to most expensive. (I didn’t test earplug-style phones, which earring-wearers may prefer; my trip wasn’t long enough.)

JVC HA-NC100 There are three refreshing points to note about JVC’s entry. First, the street price is only \$40; you could buy seven pairs of these for the price of one Bose set. Second, these phones rest on your ear instead of surrounding it. As a result, they’re so small, they come in a compact drawstring bag, rather than in a hard clamshell.

Finally, the audio cord is retractable — a brilliant, obvious and extremely handy feature.

You can probably feel a “but” coming, and here it is: the circuitry cuts out only a chunk of the lower frequencies, leaving much of the engine roar unabated. And the music quality is only average and weak on bass.

PANASONIC RP-HC500 The pleasantly smushy-edged earcups on this new model do an excellent job of isolating your ears. That may be one reason the noise cancellation works so well; all but the highest frequencies are subtracted. Better still, the music reproduction is stellar, especially in the crisp, clean higher registers.

I waited to look up the prices for these products until after I’d tested them. So I was astonished to discover that you can find these online for \$100. You get quality that’s nearly indistinguishable from the Boses — for a third the price.

AUDIO-TECHNICA ATH-ANC7 Here is another winner, with another surprising price: \$132 for these comfy, solidly built, absolutely great-sounding headphones. The circuitry cuts out a huge swath of engine, road or train noise, and the music is crystal clear, sweet and finely textured.

It’s “Bose” without the marketing campaign.

JBL REFERENCE 510 You can’t accuse JBL of designing with the herd. Instead of putting the circuitry and the battery in the earcups, JBL’s engineers offloaded them to a little box that dangles on the cord. You can clip the box to your clothing.

Thus relieved of that extra weight and bulk, these on-ear headphones are positively microscopic compared with their rivals. They fold down into a little pocketable stretchy bag.

Unfortunately, these \$150 phones are the least comfortable of the lot; those tiny earcups feel like tongs trying

to grip your head. The external-fob approach means a lot more wiring to fuss with, too. And you can't detach the cords when you want to use the headphones for noise cancellation only.

Music sounds terrific, but beware: with a 125-decibel peak, these cans will blow out your eardrums if you're not careful.

LOGITECH NOISE CANCELING HEADPHONES The noise-canceling circuit is superb, cutting out both the low roar and most of the middle frequencies. Inside the gigantic case, labeled loops keep everything, including jack adapters and even an [iPod](#), in its place.

Music sounds pretty good for the price (\$155), though it does not keep up with the Boses.

ABLE PLANET SOLITUDE, LINX AUDIO These cans look great and feel great. They sound pretty good, but the noise-canceling is only so-so.

On the bright side, there's a volume control on the audio cord, which you can use to mute the music when the flight attendant is asking for your drink order; and the volume, as with the JBL set, goes all the way to 11. For \$300, though, you can do better.

BOSE QUIETCOMFORT 2 Mmm, nice. Bose may charge a lot (\$300), but you have to admit they know their acoustics. The noise cancellation is amazing; when you throw the switch, the world just falls away. Music sounds fantastic — wicked bass, clear highs.

Unfortunately, you can't use these as regular headphones; when you turn off the noise-cancellation, you turn off all sound.

BOSE QUIETCOMFORT 3 This \$350 pair are smaller than the QuietComfort 2's; they're on-ear rather than surround-ear. There is no room for a AAA battery. You get a snap-in rechargeable battery instead, which means that you have to pack and track its charger. The 3's are incredibly comfortable, and both the circuitry and music reproduction is outstanding — but like the cheaper version, they can play music only when the cancellation circuitry is turned on.

SENNHEISER PXC 450 If these headphones were any bigger, they'd be called Sousaphones.

They're loaded with unique features, like a Talkthrough button that cuts out all the music and the noise-canceling when someone's trying to talk to you. Volume buttons and a bypass switch turn the Sennheisers into regular headphones.

The noise cancellation works well. But you can't detach the audio cord. And despite "adaptive baffle damping and Duofol diaphragms," music reproduction isn't where it should be for \$450.

So what's the verdict? Nobody has yet knocked Bose off its pedestal, but Panasonic and Audio-Technica have climbed up there with it. These headphones sound amazing, but cost a half or a third as much.

Then again, any noise-canceling technology is better than none. Now all we need is technology that gives us overbook-canceling, delay-canceling and cancellation-canceling.

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