

# NuForce NE-700X Earbuds

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## Introduction

When I was a teenager, I listened to my stereo in the evening using over-the-ear headphones so as not to disturb my parents. There were no earbuds in those days.

Now, earbuds is just about all you will see when you are walking down the street, or sitting in a restaurant. Kids have their iPods with their MP3 recordings, and a set of earbuds tucked into their ears. (For clarification, there are on-ear headphones that press against the ears but do not cup the ear, over-the-ear headphones that completely surround (cup) the ear, and earbuds, which fit into the ear canal.)

The technology has come a long way since earbuds were introduced, and there are hundreds of models out there to choose from. I suspect most of the teenagers just use the earbuds that came with their iPods or other portable players. They are OK, but not really audiophile quality (on the other hand, MP3 recordings are not audiophile quality either).

We have reviewed a number of models of headphones and earbuds in the past, and the NuForce NE-700X earbuds are the subject of this review. They are available from Amazon for \$65 and are apparently one of the best-selling set of earbuds Amazon carries.

# Specifications

- Design: Stereo Earbuds
- Driver: 8mm Titanium-Coated
- MFR: 20 Hz – 20 kHz
- Nominal Impedance: 16 Ohms
- Sensitivity: 105 dB
- Maximum Input Power: 10 mW
- Connector: 3.5mm
- Dimensions: About 1/2"
- Weight: 0.3 Ounces
- MSRP: \$65 USA
- [NuForce](#)

## Design and In Use

Each earbud has a single dynamic driver, which has a titanium coating. Earbuds often sound great, but they don't fit my ears well. They either are not straight in my ear canals, or don't fit tight enough to stay in while I am walking.

The NuForce NE-700X fit me like they were made for my ears. In fact, they make an air-tight seal and never fell out while I used them.

I walk three miles every day around the circle road that is at the top of the hill where I live. I used the NE-700X for a few months, listening to my favorite jazz and classical music, stored in Apple Lossless format (true CD quality).

The sound was impeccable, with a very natural tone, no excess sibilance, and deep bass. I like them so much, I decided to use them permanently, not only for my daily walks, but also when playing my drums along with some classic jazz LPs that I have in the lab. The air-tight fit makes them perfect for reducing the high SPL that hard cymbal crashes produce, so that my own cymbals were the same loudness that the jazz groups were playing in the earbuds (I try to keep the volume in the earbuds at about 85 dB so as not to cause damage to my hearing).

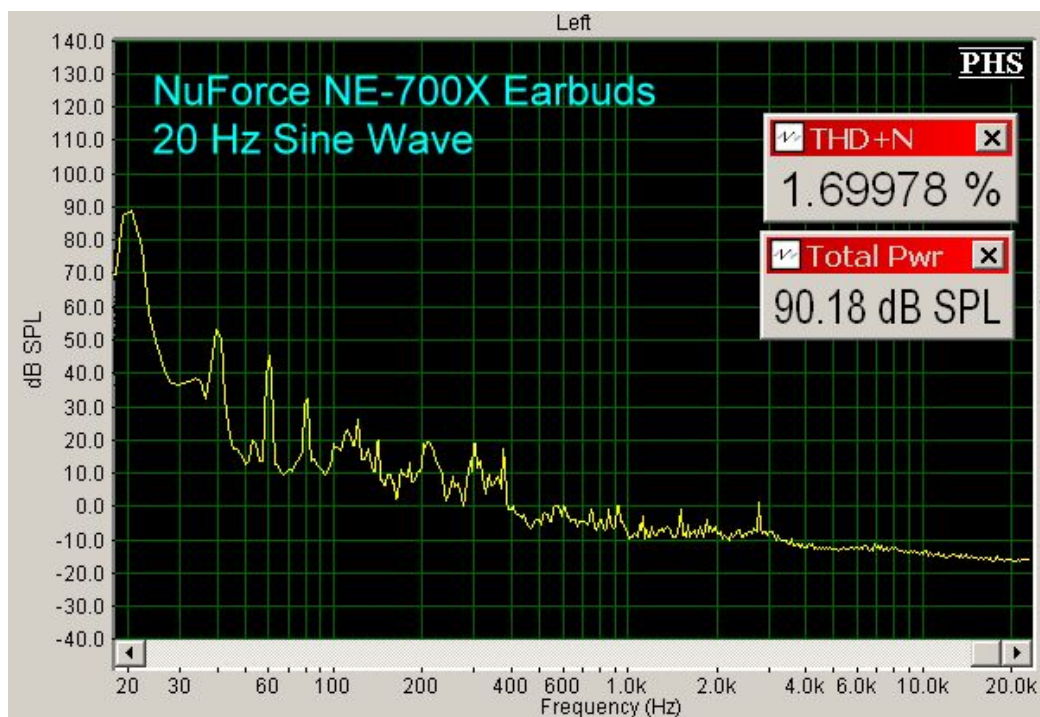
Note that, although the various EQ settings on iPods and other portable players can change the tonality (frequency response) to suit your tastes, EQ cannot decrease the amount of distortion that

the earbud drivers produce, and as you will see in the Bench Tests, the NuForce NE-700X earbuds have very low distortion.

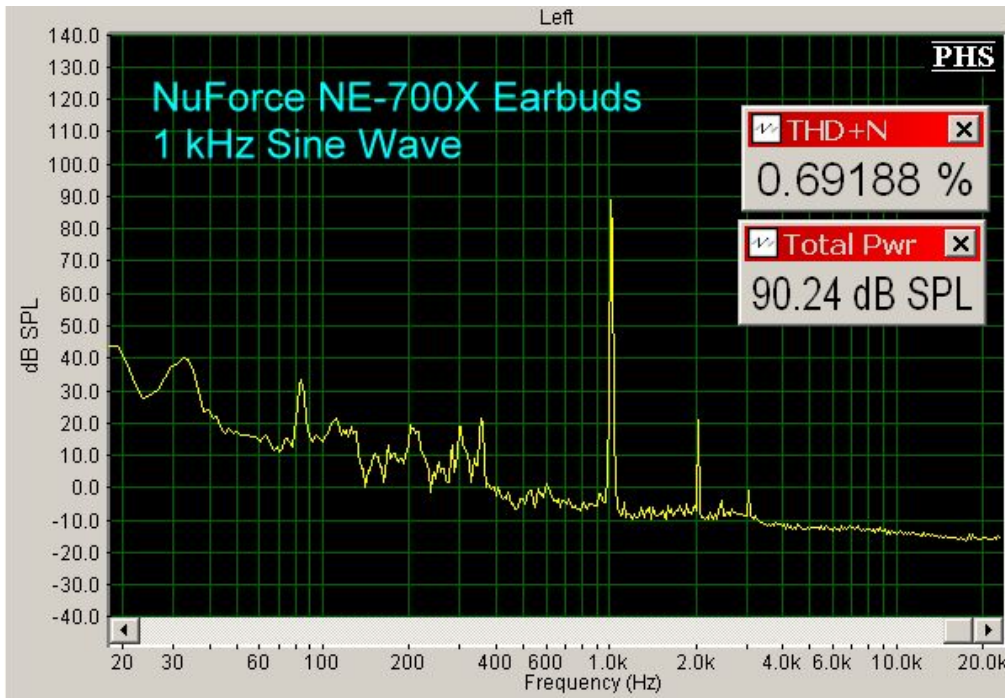
## On the Bench

As with our previous earbud and headphone reviews, I put the NuForce NE-700X earbuds through our bench tests. The microphone was connected to the earbud through a 1/2" section of surgical tubing. That is about as close as I can set the test up so that it mimics the ear canal. The volume was adjusted to 90 dB for the tests.

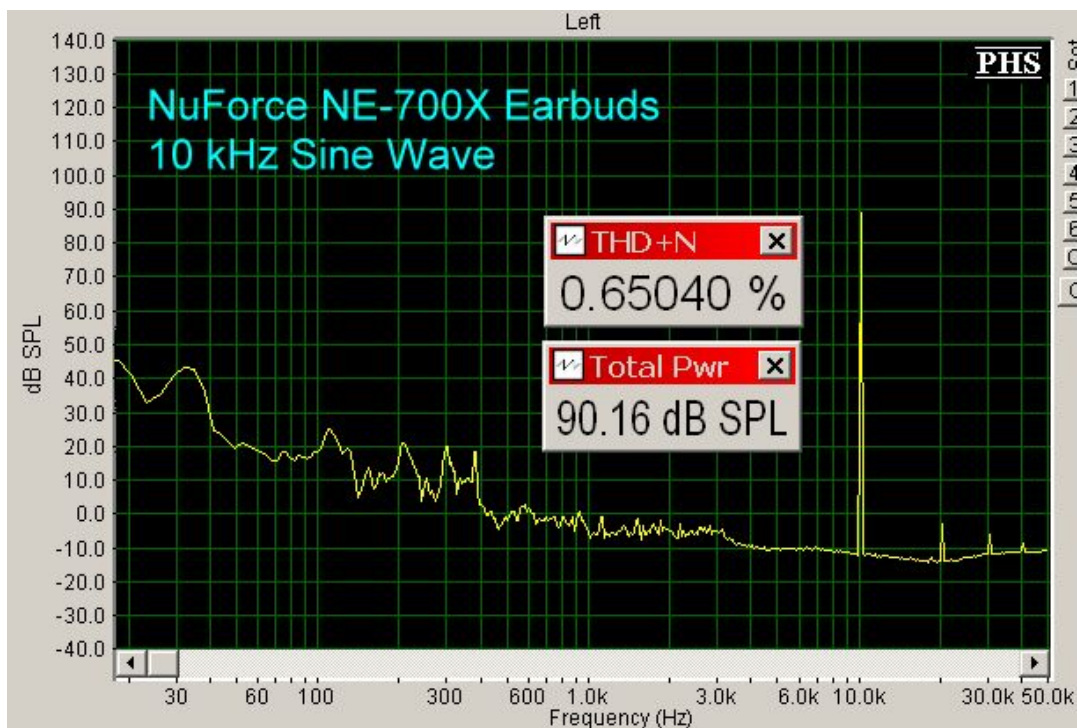
At 20 Hz, distortion was less than 2%, which is excellent.



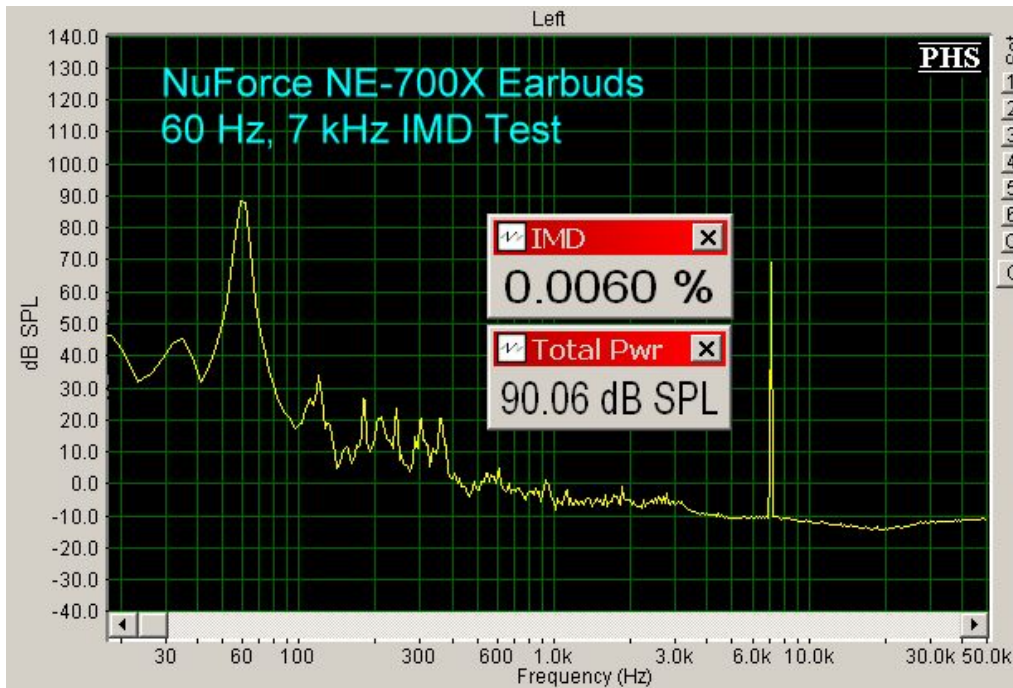
At 1 kHz, distortion was less than 1%, also an excellent performance.



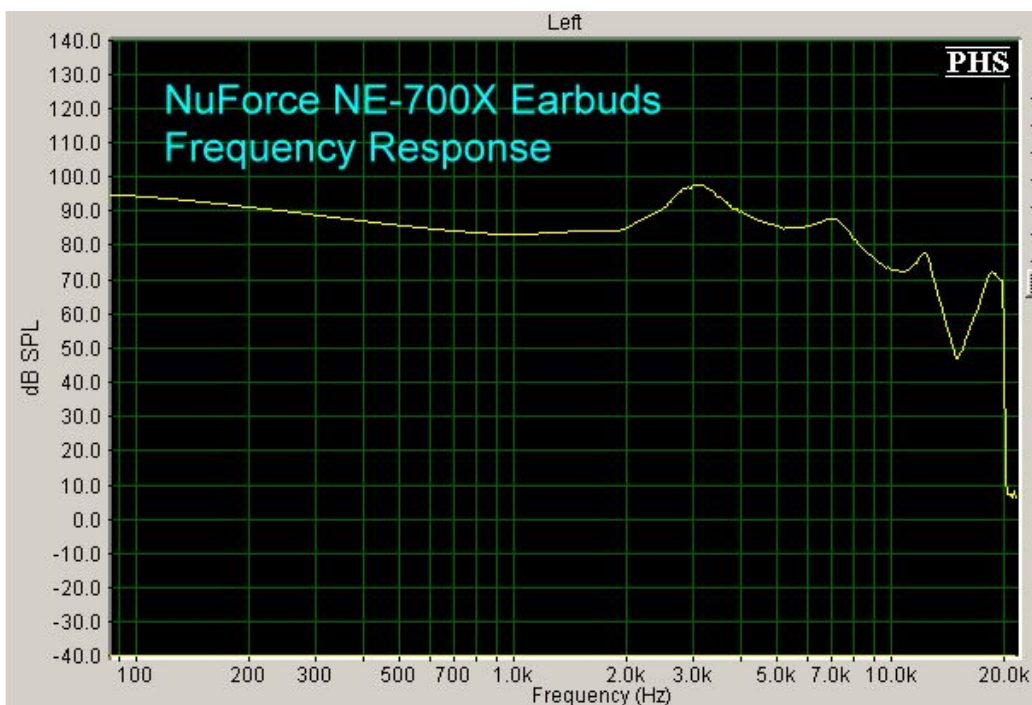
And, at 10 kHz, again, less than 1% THD+N.



IMD was the lowest I have ever measured for this type of product, and low IMD is critical to good sound. It means you get lots of detail and no smearing or muddiness in the sound, and that was exactly my experience. At \$65, no wonder they are a best-seller on Amazon.



For the frequency response, I illustrate the spectrum beginning at 100 Hz so as to make the high frequency portion of the graph easier to see. It shows the typical rises and dips that we have seen with all earbuds. I suspect that it is due to the driver being so close to the eardrum, and the sound bouncing off the walls of the tubing, causing cancellation and augmentation. Note that the same pattern of response is shown when exact models of the human ear canal – including material that simulates human skin – are used to measure frequency response of earbuds, so it is not because I am using surgical tubing.



## Conclusions

The NuForce NE-700X are the most comfortable earbuds I have ever tested, and they sound great. With their extremely low distortion and low price, they are one of the best values in audio. If you are an iPod music listener, gotta have 'em.