**Tomasz Karasiński**

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## Final Audio Design D8000

Final Audio Design introduced the new D8000 headphones - a combination of the sensitive high ranges of planar magnetic models and the volume and open feel bass tones of dynamic models. With conventional planar magnetic models, the amplitude is an increasing low range, and since the diaphragm comes into contact with magnets, it was necessary to raise the frequency of bass tones to a level that the driver unit can reproduce. To make up for the lack of bass tones, the inside of the earpads have been tightly sealed, and the front section of the diaphragm has been made a closed space.

This is the same principle as earphones with sealed earpieces being able to reproduce bass frequencies

With D8000, the problem with the diaphragm coming into contact with magnets has been solved through AFDS (Air Film Damping System), and it has become possible to reduce the frequency of the bass tones that the driver unit can reproduce. Combined with breathable earpads, bass tone reproduction with a volume and open sound only achievable with superior dynamic models is possible.

In reproducing subtle high frequencies, the lightweight nature of the diaphragm comes before anything else. Compared to other dynamic models with the same diameter, D8000's diaphragm is 1/3 lighter. A super thin aluminum coil has been etched on the extremely lightweight film diaphragm, and as such, the adhesive essential for use between the coil and the diaphragm of dynamic models - which has a very negative effect on sound quality - is not necessary. This is an important part, packed with know-how. With D8000, this problem is solved theoretically, and reproduction of subtle high frequencies has been achieved.

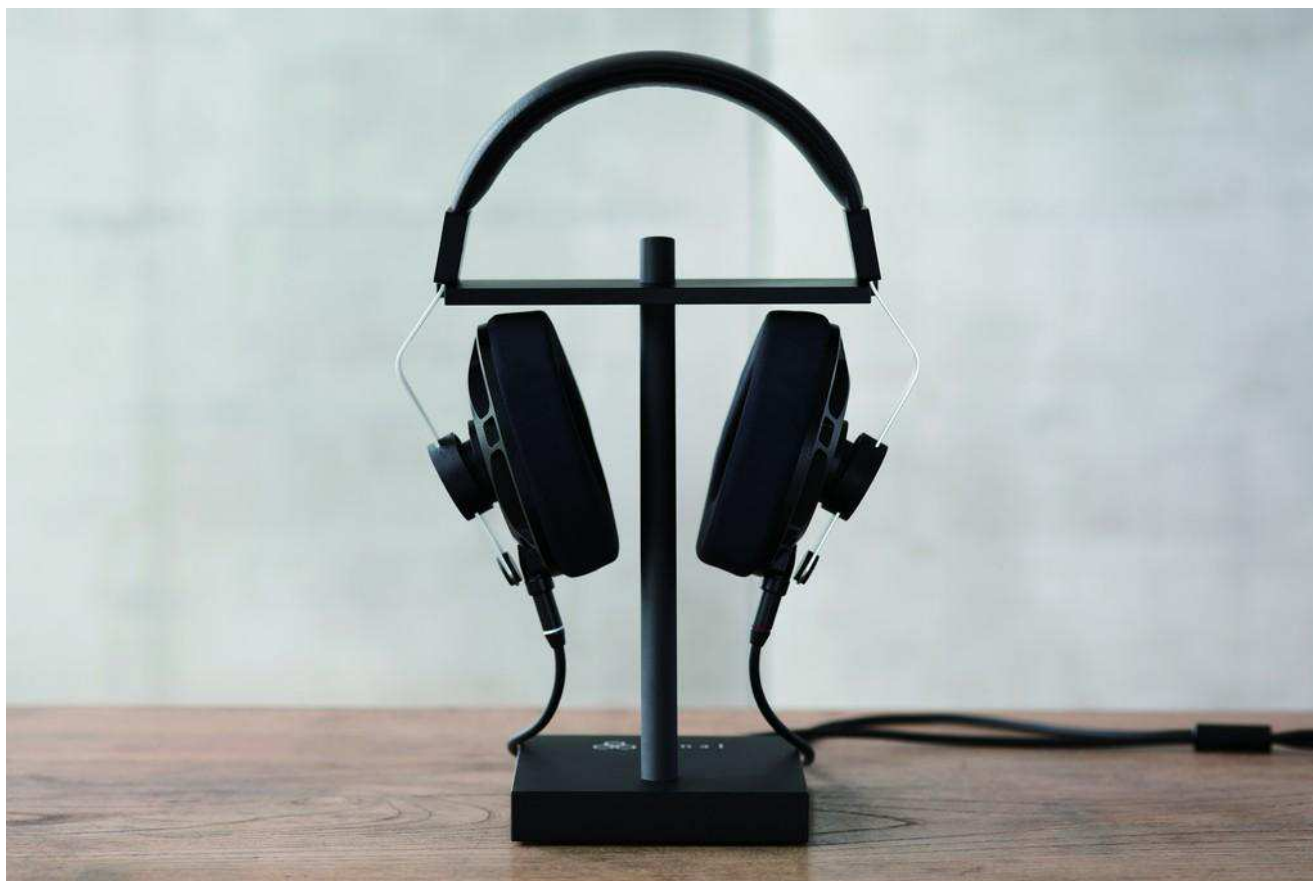
With conventional planar magnetic models, amplitude was an increasing low range, and the diaphragm came into contact with magnets. To solve this problem, Final took measurements by conducting diaphragm simulations using the finite element method and laser Doppler devices numerous times and established new diaphragm braking technology known as AFDS. In doing so, the shortcoming of planar magnetic models - the low reproducibility of bass tones - was solved. This technology could be considered a reinvention of planar magnetic models. With D8000, the problem with the diaphragm coming into contact with magnets has been solved through AFDS (Air Film Damping System), and it has become possible to reduce the frequency of the bass tones that the driver unit can reproduce. Combined with breathable earpads, bass tone reproduction with a volume and open sound only achievable with superior dynamic models is possible.

So as to make repairs and future upgrades possible, almost every part has been designed in such a way that they can be disassembled, ensuring that the product can be used for many years following the purchase. To establish AFDS, an extremely high level of precision compared to typical driver units is necessary. Because of this, the machined aluminum magnesium alloy housing has been machined with great precision. By applying the kind of leather coating finish used with high-quality cameras, Japanese engineers have also taken measures against minute vibrations.

The D8000 model is manufactured at Final's head office in Kawasaki. Together with the precision of individual parts, the precision involved in the assembly process depends on the precision of the tools known as jigs that assist in the assembly process. It's important to be able to fine-tune even the slightest of irregularities in jig precision during the assembly process. Japanese engineers developed manufacturing apparatus such as a diaphragm formation machine and a diaphragm tension meter in-house, specifically for the D8000. To create truly good products, it is necessary to get to the core of the manufacturing process of parts close to the raw material. What is good about "made in Japan" is that when doing so, one can gain the cooperation of those manufacturers close to the material. By controlling everything together, from sourcing the raw materials through to the assembly of the product, Final Audio Design achieved high-quality products.

In the D8000 set, two kinds of cable are included - a 3.5mm mini plug type (1.5m) and a 6.3mm standard plug type (3m). Final also plans on selling a connector with a silver coated cable that can be used for all models, including balanced ones. Also, the company developed a headphone stand for the D8000, the first such stand created by Final. While compact, it is made entirely of machined aluminum. It is a stand for exclusive long-term use with the D8000. Info and photos by [Final Audio Design](#).







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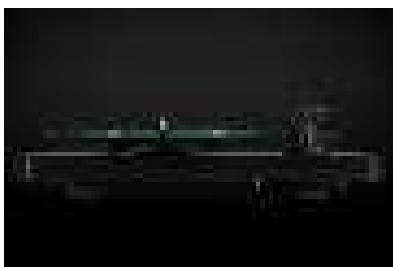
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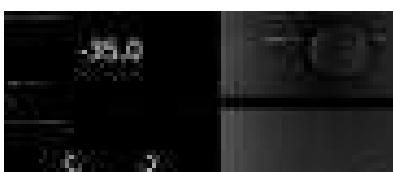
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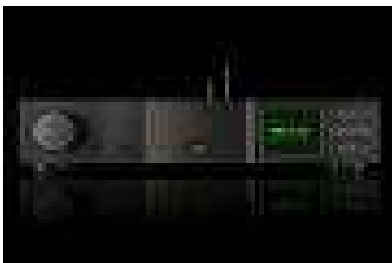
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