



Monthly Business Report

EP09 Headphone Industry



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Abstract

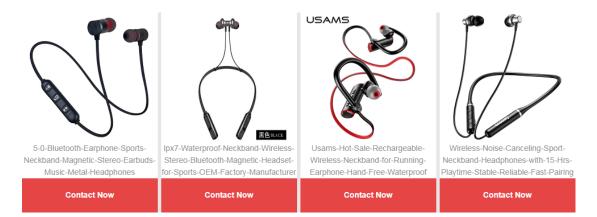
With a variety of headphones on the market with different features to choose from, there are certain common core specifications such as sound quality which can be used to assess which product is right for you. In this episode of StarTube, we'll walk you through the types of the headphone and their specs that you'll need to know as a business man.

1. Types of Headphones

In terms of types, there're earbuds, over-ear headphones, on-ear headphones, bone conduction headphones and Bluetooth headphones.

1.1 Earbuds

Earbuds are also known as in-ear headphones, this type is a classic choice especially for sports fans and teenagers who need the sound in a rather noisy place. It is easy to carry and can offer some nice sound quality to the ear while providing some level of noise-cancelling function by physically block them out.



1.2 Over-ear headphones

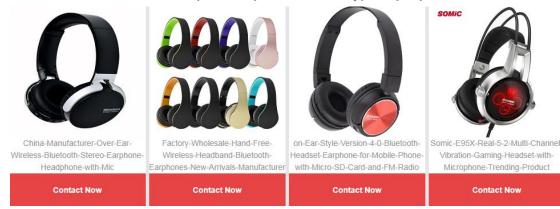
Over-ear headphones sit on top of your head and use adjustable earcups to hold you ears. This type can be closed-back or open-back according to different purposes. Open-back headphone allows air to go through the earcup from the back of the speaker driver, thus making the resonance and low-frequency sound very robust, however, it provides less privacy and you can barely use it with noises around. Regarding the

close-back headphones, the sound could be less natural and the low frequencies might be too strong, but the privacy and noise-proof is much better.

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1.3 On-ear headphones

On-ear headphones have smaller earcups compared with over-ear headphones. In terms of sound quality, there are no major differences between over-ear and on-ear type, but on-ear headphones are generally lighter and easier to carry. The only type difference would be on-ear headphones can not have ANC(active noise cancellation) function, which would be a important spec for certain type of people.

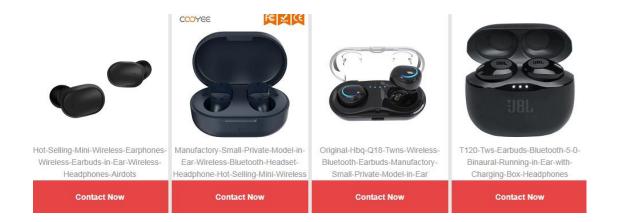


1.4 Bone conduction headphones

Bone conduction headphones are unique for its style and sound system. Instead of blocking the ear canal, this type of headphone send vibrations to the bones in the inner ear, making it possible for hearing-disabled people to use.

1.5 Bluetooth headphones

Bluetooth headphones are also known as wireless headphones, using Bluetooth technology to connect two devices via radio waves. The best part of this kind is the convenience of getting rid of the pesky cord while sacrificing part of the sound quality. There are different forms of this type including earbuds, headphones and bone conduction as mentioned above.



Despite all the different forms of the headphones, they do share some common traits regarding the sound quality. There are some specs to judge their performances on the most basic level without taking their unique features into account.

1.6 Headphone drives

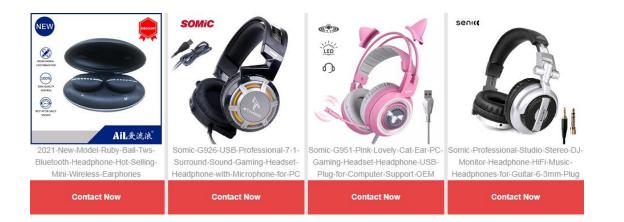
The driver functions as the element that transmits and converts electrical signals into sound waves perceivable for the user. Manufacturers often emphasizes on the diameter of their drivers due to the fact that it is generally considered the larger it gets, the better sound quality it can offer. That is particularly true for low-frequency sounds.

2. Specifications of Headphones

Headphones share some common traits regarding the sound quality. There are some specs to judge their performances on the most basic level without taking their unique features into account.

2.1 Sensitivity and sound pressure

Sensitivity means the ability to perform on the largest volume. This trait is also referred to as the sound pressure. This parameter indicates how efficiently an electrical signal is transformed into a sound wave and it also helps to understand how the volume changes the voltage.



2.2 Impedance(electrical resistance)

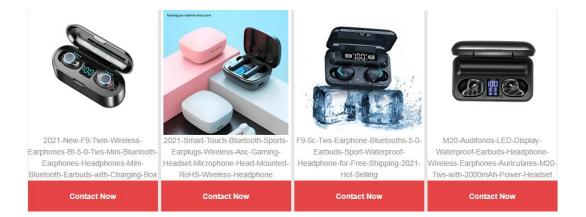
Impedance is measured in Ohms which indicates how much power is required to boost the headphone. The higher it is, the more energy it needs.

However, low-impedance is not exactly the perfect solution. The current low-impedance headphone requires often tends to bring vibration and noise, causing perceivable background hiss when running.

2.3 Frequency response

Frequency response indicates the frequency range the headphone can produce, which is measured in Hertz(Hz). The higher number represents the higher notes while the lower number brings bass sound.

The curve of frequency response can help to choose the type of headphone that suits the demand, for instance: if the bass sound is important, choose the ones with lines fall late into the deep base, if the headphone is used for singing, choose the ones that is heavy on the mid-range frequencies where there is no major rise and fall, if the headphone needs to resonate on trebles. Choose the ones with good extension in the high frequency range and seemingly flat in that area.



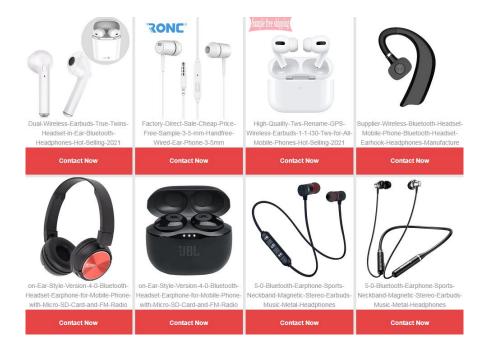
2.4 Total harmonic distortion(THD)

Total harmonic distortion refers to the amount of distortion happens to the sound, which is usually more perceivable at a high volume. This happens because the headphones produce sound via vibrations on the diaphragm, which might not be vibrating fast enough at high volumes and causing the sound distortion, the smaller it is, the better it sounds.

However, low-impedance is not exactly the perfect solution. The current low-impedance headphone requires often tends to bring vibration and noise, causing perceivable background hiss when running.

3. Product Recommendations

Based on the function and features, we put together a list of product for you to choose from, these suppliers offer good quality headphones on different price levels.



4. Raw Material Prices of This Month

The producer price index is considered generally stable from last month. Still, the mining and washing of coal products have seen a major increase due to the global energy crisis.

You can see the details here.

Producer Price Index for Industrial Products				
Indicators [Producer Price Index for Industrial Products (preceding month=100)]	Sep-21	Aug-21	Jul-21	
Total	101.2	100.7	100.5	
Mining and Washing of Coal	112.1	106.5	106.6	
Extraction of Petroleum and Natural Gas	99.1	98.8	105.9	
Mining and Processing of Ferrous Metal Ores	91.3	98.5	103.6	
Mining and Processing of Non-Ferrous Metal Ores	101	100.7	100.2	
Mining and Processing of Non-metal Ores	100.4	100.6	100.4	
Mining and Support Activities	95.5	99.8	105	
Processing of Food from Agricultural Products	99.9	100	100	
Manufacture of Foods	100.2	100.3	100.2	
Manufacture of Liquor, Beverages and Refined Tea	100	99.7	100.2	
Manufacture of Tobacco	100	100	100	
Manufacture of Textile	100.4	101	100.6	
Manufacture of Textile, Wearing Apparel and Accessories	100.2	100.1	100.2	
Manufacture of Leather, Fur, Feather and Related Products and	100	100.1	100.3	

Footwear			
Processing of Timber, Manufacture of Wood, Bamboo, Rattan,	100.4	100.1	100.4
Palm and Straw Products	100.4	100.1	100.4
Manufacture of Furniture	100.5	100.1	100.5
Manufacture of Paper and Paper Products	100.1	99.7	99.4
Printing and Reproduction of Recording Media	99.9	99.8	100.1
Manufacture of Articles for Culture, Education, Arts and Crafts, Sport and Entertainment Activities	100.2	100	100.3
Processing of Petroleum, Coal and Other Fuels	103.3	101	102.6
Manufacture of Raw Chemical Materials and Chemical Products	102	101.9	100.8
Manufacture of Medicines	99.7	100	99.8
Manufacture of Chemical Fibres	98.7	101	101.8
Manufacture of Rubber and Plastics Products	100.1	100.1	100.1
Manufacture of Non-metallic Mineral Products	102.9	99.9	98.9
Smelting and Pressing of Ferrous Metals	101.8	102.2	99.8
Smelting and Pressing of Non-ferrous Metals	102.9	101.4	99.9
Manufacture of Metal Products	100.7	100.6	100.5
Manufacture of General Purpose Machinery	100.2	100.2	100.3
Manufacture of Special Purpose Machinery	100.1	100.2	100.2
Manufacture of Automobiles	100.2	100.1	100.1
Manufacture of Railway, Ship, Aerospace and Other Transport Equipments	100.1	100.3	100.2
Manufacture of Electrical Machinery and Apparatus	100.5	100.4	100.5
Manufacture of Computers, Communication and Other Electronic Equipment	100	100.1	100.6
Manufacture of Measuring Instruments and Machinery	99.9	100	100.5
Other Manufacture	100.1	100.1	100.3
Utilization of Waste Resources	101.9	100.2	99.8
Repair Service of Metal Products, Machinery and Equipment	100.3	100.1	100.2
Production and Supply of Electric Power and Heat Power	100.4	99.6	100
Production and Supply of Gas	102.5	101.7	100.2
Production and Supply of Water	100	100	100.1

Data Sources: National Bureau of Statistics

If you have any questions, contact us, we value your feedback: <u>Ben@made-in-china.com</u>

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