

Filltune Bone-Conduction Headphones Hi-end Stereo Headphones Model HP-F100

- Ideal for anyone (especially middle-aged and elderly) with hearing difficulty or impairment
- Bone-conduction technology generates direct vibration to users sensory organ
- Bone-conduction allows users to re-capture the pleasures of virtually all audio...including high-quality music
- Filltune headphones rest on user's temples...thus allowing for music-listening while simultaneously being able to hear ambient sounds
- Supports a wide range of audio frequencies, from 25 Hz to 25 kHz, for clear, distinct sound quality
- Output capabilities up to .76 watts to each channel
- Long-lasting 10-hour battery life
- Fully compatible with any audio source with stereo mini-jack/Out



Place headset directly on bone in front of ear as shown here.



Unlike conventional headphones which vibrates the eardrum between the outer- and middle-ear using air vibrations produced by the speaker, **Filltune HP-F100** headphones use giant Magnetostrictive bone-conduction technology that vibrates the sense organ directly, thus allows you to pick up high frequencies that are produced in high-quality music.

Not having the use of eardrums to feel sound, middle-aged or elderly people having mild conductive hearing loss (or those with presbycusis, having difficulty hearing high frequency sounds) can also enjoy music through the Filltune headphones. Or, for those who simply enjoy listening to loud Hi-Fi music but are concerned with deteriorating hearing, then TEAC's new Filltune Bone-Conduction headset is also the answer!

Regular headsets that rely on air conduction are known to cause hearing loss, especially after extended use over time. But the use of bone-conduction technology stimulates the auditory nerve bypassing the eardrum, making it the safer means of sound delivery.

Aside from preventing damage to eardrums, bone-conduction technology also offers the advantage of keeping ambient noise audible, which is required in many occupational applications and businesses.

Filltune also comes with a remote control, which not only adjusts the volume, but has its own amplifier to produce better output delivering up to .76-watts to each channel. Filltune features a wide range of playback of frequencies, from 25Hz to 25 kHz. Filltune has a long battery playback time of up to 10 hours using three AAA batteries. This stylish, lightweight and foldable headset weighs only 4.2 oz (120 grams).

What is giant magnetostrictive bone-conduction?

Conventional headphones conduct sound to the inner ear through the auditory ossicles by vibrating the eardrum between the outer and middle ears using the air vibrations produced by the speaker. This is called air conduction. The Filltune, on the other hand, conducts sound to the inner ear, not through the outer or middle ear but through the bone, by vibrating the body parts near the ear directly. This is called bone conduction. Vibrating the sense organ directly allows you to enjoy very clear sound quality.

While most of the bone-conduction headphones available are electromagnetic, electrodynamic or piezoelectric headphones, the Filltune uses giant magnetostriction. Giant magnetostrictive bone-conduction headphones are excellent in response speed and vibration generation efficiency compared with the other types of headphones, featuring reproducibility of even significantly high frequency sounds as well as offering miniaturization and power saving capabilities.

	Bone conduction			Air conduction	
	Magneto-strictive	Piezoelectric	Electro-magnetic	Hearing aid	Audio headphones
Displacement (ppm)	Excellent	Poor	Good	---	---
Response speed (sc)	Excellent	Good	Poor	---	---
Vibration generation efficiency	Excellent	Good	Poor	---	---
Generated stress	Excellent	Good	Poor	---	---
Displacement rate	Excellent	Good	Poor	---	---
Required pressure against bones	Low	High	High	---	---
Frequency response	25 to 25kHz		100 to 10kHz	250 to 8kHz	varied
Low frequency reproduction	Good	Good	Poor	Poor	Good
High frequency reproduction	Excellent	Good	Poor	Poor	Good

Specifications

Filltune Model No.: HP-F100

Head Phone

Type	Bone Conduction Headphone (Giant magnetostrictive Transducer)
Output Force Level	103dB (20kHz), 102dB (1kHz) / 1Vpp
Impedance	9 Ω
Dimension (W x H x D)	112 x 103 x 22mm
Weight	Approx. 120g (not including code)

Amplifier

Battery Life	Approx. 10 Hours
Output Power (L+R)	0.76W + 0.76W (36V)
Input Sensitivity / Impedance	<i>MIC</i> : 1.74mV/ 1.5kΩ <i>LINE</i> : 61.6mV/ 16.9kΩ
Frequency Response	<i>MIC</i> : 60 to 15,000 Hz (+0/-3 dB) <i>LINE</i> : 25 to 25,000 Hz (+0/-3 dB)
Max Input Voltage	2V
Input Connector	<i>MIC</i> : 3.5mm (1/8in.) Plug-in power support <i>LINE</i> : 3.5mm (1/8in.)
Output Connector	Headphone
Power Requirement	3 x "AAA" dry batteries
Power Consumption	0.5A
Dimension (W x H x D)	32 x 24 x 134mm
Weight	Approx 50g (not including batteries)

Microphone Connector

Type	Electret Condenser Stereo-Microphone
Output Impedance	680 - 1.5k Ω
Power Supply	Plug-in power
Plug	3.5 mm (1/8in.) Stereo mini plug
Tested Microphones	Panasonic: RP-VC201 Audio Technica: AT9830 Hattori-Electronics: EM-204



Features

Feel sound without using your eardrums

Differing from conventional headphones that conduct sound by vibrating the air, the **TEAC** Filltune HP-F100 are bone-conduction headphones that allow you to feel sound through your inner ear (cochlea) by passing the sound-producing vibrations to your skull.

Not having to use the eardrums to feel sound, people with mild conductive hearing loss or those with presbycusis (having difficulty hearing high frequency sounds as they age) can also enjoy music through the Filltune.

Hi-Fi bone-conduction headphones capable of reproducing the original sound

Filltunes is an excellent set of headphones for offering the original sound including harmonics by using a giant magnetostrictive transducer to reproduce high frequency sounds that the existing bone-conduction headphones often lose.

Applications

Enjoy music on TV and audio device

Conducting vibrations directly to the bones to convey signals to the sense organ, the Filltune allows middle-aged and elderly people having difficulty hearing or those with a mild defect in the outer or middle ear sound conduction mechanism to feel rich sound.

If you have noticed lately that you end up turning up the TV or audio devices, the loss of hearing may already have occurred gradually. Increasing the volume puts more strain on your ears and can therefore cause more damage to them as well as disturb other people around you. The Filltune can reduce the strain on your outer and middle ears by conducting sound directly to your auditory organ.



Hear ambient sounds by plugging a microphone

Plugging a microphone available into the Filltune enables you to hear ambient sounds through the bone. Using the Filltune, capable of reproducing even high frequency sounds that are difficult to pick up with a hearing aid, you can also enjoy the sound that gives you a great sense of immediacy at theaters and concert halls.

TEAC®