

CLAIMS

What is claimed is:

1. A sound enhancing device, comprising:

a chair;

an audio power amplification and control unit receiving, from an audio source, audio input formed of audio data with natural vibrations, the audio power amplification and control unit being coupled to at least one part of the chair; and

one or more speakers coupled to the chair, the speakers receiving said audio input from an the audio power amplification and control unit such that the speakers receive the audio data with natural vibrations from the audio source and generating generate corresponding sound vibrations, the speakers being coupled to the chair in a manner delivering the generated sound vibrations to body parts of a user seated in the chair, such that the user experiences the audio input as vibrations through sense of touch and as sound through bone conduction, enhancee enhancing user experience of the audio input, wherein the audio power amplification and control unit has user-adjustable controls and is coupled to the chair in a manner enabling the user to control intensity of the sound vibrations of said speakers and wherein the speakers are contact speakers that amplify the generated sound vibrations delivered to body parts of the user and felt by sense of touch and through bone conduction of sound by the user.

2. A sound enhancing device as claimed in Claim 1 wherein the audio input is music, and the device provides enhanced musical sound experience to the user.

3. A sound enhancing device as claimed in Claim 2 wherein the user is hearing impaired.

4. A sound enhancing device as claimed in Claim 1 wherein the audio input is any of: a real-time stream of audio data and a recorded stream of audio data; and

the audio input is free of processing before being received by the speakers such that the speakers receive natural audio data.

5. A sound enhancing device as claimed in Claim 1 wherein the speakers are coupled to the chair in a manner delivering the generated sound vibrations to any combination of: feet, hands, arms and back of the user.
6. A sound enhancing device as claimed in Claim 5 wherein the chair has arms, and the chair arms further comprise dome areas delivering the generated sound vibrations to hands and fingers of the user.
7. A sound enhancing device as claimed in Claim 1 further comprising a visual display corresponding to the audio input and being informative of features of the audio input.
8. A sound enhancing device as claimed in Claim 7 wherein the features of the audio input include any one or combination of: amplitude, note onset, pitch, instrument change, rhythm, beats and musical key change.
9. A sound enhancing device as claimed in Claim 7 wherein the visual display includes any combination of text, color-based indications of respective features of the audio input, variance in visual brightness as a function of amplitude of the audio input, three dimensional patterns and human gestures.
10. A sound enhancing device as claimed in Claim 9 wherein one or more elements of the visual display are user adjustable.
11. A method of enhancing sound for a user comprising:
providing a chair;
an audio power amplification and control unit receiving, from an audio source, audio input formed of audio data with natural vibrations, the audio power amplification and control unit being coupled to at least one part of the chair; and
coupling one or more speakers to the chair, the speakers receiving said audio input from ~~an~~ the audio power amplification and control unit such that the speakers receive the audio data with natural vibrations from the audio source and generating generate corresponding sound vibrations, the speakers being coupled to the chair in a

manner delivering the generated sound vibrations to body parts of a user seated in the chair, such that the user experiences the audio input as vibrations through sense of touch and as sound through bone conduction, enhancing user experience of the audio input is enhanced, wherein the audio power amplification and control unit has user-adjustable controls and is coupled to the chair in a manner enabling the user to control intensity of the sound vibrations of said speakers and wherein the speakers are contact speakers that amplify the generated sound vibrations delivered to body parts of the user and felt by sense of touch and through bone conduction of sound by the user.

12. The method claimed in Claim 11, wherein the audio input is music, and the device provides enhanced musical sound experience to the user.

13. The method as claimed in Claim 12 wherein the user is hearing impaired.

14. The method as claimed in Claim 11 wherein the audio input is any of: a real-time stream of audio data and a recorded stream of audio data; ~~and~~
~~the audio input is free of processing before being received by the speakers such that the speakers receive natural audio data.~~

15. The method as claimed in Claim 11 wherein the speakers are coupled to the chair in a manner delivering the generated sound vibrations to any combination of: feet, hands, arms and back of the user.

16. The method as claimed in Claim 15 wherein the chair has arms, and the chair arms further comprise dome areas delivering the generated sound vibrations to hands and fingers of the user.

17. The method as claimed in Claim 11 further comprising a visual display corresponding to the audio input and being informative of features of the audio input.

18. The method as claimed in Claim 17 wherein the features of the audio input include amplitude, rhythm and/or beats.

19. The method as claimed in Claim 17 wherein the visual display includes any combination of text, color-based indications of respective features of the audio input, variance in visual brightness based on respective amplitude of the audio input, three dimensional patterns and human gestures.

20. A haptic chair comprising:

a back rest;

chair arms;

a seat;

a foot rest;

an audio power amplification and control unit receiving, from an audio source, audio input formed of audio data with natural vibrations, the audio power amplification and control unit being coupled to at least one part of the chair; and

a plurality of speakers coupled to any combination of the back rest, chair arms and foot rest, the speakers receiving said audio input from an the audio power amplification and control unit such that the speakers receive the audio data with natural vibrations from the audio source and generating corresponding sound vibrations, the speakers being coupled to the back rest, chair arms and foot rest in a manner delivering the generated sound vibrations to body parts of a user seated in the seat, such that the user experiences the audio input as vibrations through sense of touch and as sound through bone conduction, enhancing user experience of the audio input, wherein the audio power amplification and control unit has user-adjustable controls and is coupled to the chair in a manner enabling the user to control intensity of the sound vibrations of said speakers and wherein the speakers are contact speakers that amplify the generated sound vibrations delivered to body parts of the user and felt by sense of touch and through bone conduction of sound by the user.

21. A sound enhancing system comprising:

an audio source;

an audio power amplification and control unit receiving, from the audio source, audio input formed of audio data with natural vibrations, the audio power amplification and control unit being coupled to at least one part of the chair;

a haptic chair formed of a the chair and plural speakers mounted to the chair, the

speakers receiving said audio input from the audio power amplification and control unit such that the speakers receive the audio data with natural vibrations from the audio source and generating generate corresponding sound vibrations, the chair being configured to deliver the generated sound vibrations to various body parts of a user seated in the chair in a manner enabling the user to experience the audio input as vibrations through sense of touch and as sound by bone conduction, wherein the audio power amplification and control unit has user-adjustable controls and is coupled to the chair in a manner enabling the user to control intensity of the sound vibrations of said speakers and wherein the speakers are contact speakers that amplify the generated sound vibrations delivered to body parts of the user and felt by sense of touch and through bone conduction of sound by the user; and

a visual display viewable by the user, the display corresponding to the generated sound vibrations and being indicative of the corresponding audio input such that user experience of the audio input is enhanced by any one or combination of visually, by the sense of touch, and by bone conduction of sound.