CLAIMS

What is claimed is:

1. An electrostimulation device, comprising:

a transcutaneous electrostimulation generator:

receiving an input music signal; and

providing at an output a Vagus nerve electrostimulation signal modulated by the input music signal;

an electronic signal conduit having at least two conductive leads conductively connected to the output of the electrostimulation generator; and

an electrode coupler comprising an earbud:

shaped to form fit inside an ear canal of a human ear; and

composed of a pliable material that conforms to the ear canal when inserted therein; and

having at least two electrostimulation electrodes:

conductively connected to a respective one of the at least two conductive leads of the electronic signal conduit to receive the Vagus nerve electrostimulation signal; and

conductively connected to at least two different, electrically conductive exterior surface portions of the earbud to contact tissue within the ear canal when disposed therein and to apply the Vagus nerve electrostimulation signal from the at least two conductive leads to the tissue transcutaneously.

2. The device according to claim 1, wherein the input music signal is at least one of a recorded music signal, a transmitted music signal, and an ambient signal obtained from the environment surrounding the electrostimulation generator.

3. The device according to claim 1, wherein the electrostimulation generator comprises a modulation drive circuit into which the input music signal is received, the modulation drive circuit creating the output Vagus nerve electrostimulation signal modulated dependent upon the input music signal.

4. The device according to claim 1, which further comprises:

a mobile music supply device generating the input music signal; and

a generator coupler removably attaching the electrostimulation generator to the music supply device and shaped to permit a user to carry the electrostimulation generator.

5. The device according to claim 1, wherein:

the earbud has a speaker assembly; and

the electronic signal conduit comprises:

a speaker conduit conductively connected to the speaker assembly and having a standard audio jack shaped to be inserted into a standard audio output to receive therefrom the input music signal; and

an electrostimulation conduit comprising the at least two conductive leads to conductively connect the music-modulated, Vagus nerve electrostimulation signal to a respective one of the at least two electrostimulation electrodes.

6. The device according to claim 1, wherein:

the earbud has a speaker assembly having at least one speaker;

the electrostimulation generator wirelessly transmits the Vagus nerve electrostimulation signal; and

the electrode coupler has a receiver:

receiving the Vagus nerve electrostimulation signal;

receiving the input music signal;

conductively connected to the at least two electrostimulation electrodes to thereby provide Vagus nerve electrostimulation to the at least two electrostimulation electrodes; and

conductively connected to the speaker assembly to thereby provide the input music signal to the at least one speaker of the speaker assembly.

7. The device according to claim 1, further comprising an audio source outputting the input music signal, the electrode coupler comprising at least one audio speaker communicatively connected to the audio source through the electronic signal conduit and receiving the input music signal for output into the ear canal when the electrode coupler is worn, the electrostimulation generator sending the Vagus nerve electrostimulation signal to the electrode coupler while the input music signal is output by the at least one audio speaker.

8. The device according to claim 7, wherein the audio source is one of:

generating the input music signal from within the electrostimulation generator; and

separate from the electrostimulation generator and generating the input music signal externally from the electrostimulation generator.

9. An electrostimulation device, comprising:

an audio source outputting a music signal;

a transcutaneous electrostimulation generator:

receiving the music signal; and

providing at an output a Vagus nerve electrostimulation signal modulated by the music signal;

an electronic signal conduit conductively connected to the output of the electrostimulation generator; and

an electrode coupler comprising an earbud:

shaped to form fit inside an ear canal of a human ear;

composed of a pliable material that conforms to the ear canal when inserted therein;

having at least one audio speaker communicatively connected to the audio source and receiving the audio signals for output into the ear canal when worn;

having at least two electrostimulation electrodes:

conductively connected to the electronic signal conduit to receive the Vagus nerve electrostimulation signal; and

conductively connected to at least two different, electrically conductive exterior surface portions of the earbud to contact tissue within the ear canal when disposed therein and to apply the Vagus nerve electrostimulation signal to the tissue transcutaneously; and

supplying the Vagus nerve electrostimulation signal while the music signal is output from the at least one audio speaker.

10. The device according to claim 9, wherein:

the electronic signal conduit has at least two conductive leads conductively connected to the output of the electrostimulation generator; and

the at least two electrostimulation electrodes:

are conductively connected to a respective one of the at least two conductive leads of the electronic signal conduit to receive the Vagus nerve electrostimulation signal; and

are conductively connected to the at least two surface portions of the earbud to apply the Vagus nerve electrostimulation signal from the at least two conductive leads to the tissue transcutaneously.

11. The device according to claim 9, wherein the music signals are at least one of a recorded music signal, a transmitted music signal, and an ambient signal obtained from the environment surrounding the electrostimulation generator.

12. The device according to claim 9, wherein the electrostimulation generator comprises a modulation drive circuit into which the music signal is received, the modulation drive circuit creating the output Vagus nerve electrostimulation signal modulated dependent upon the received music signal.

13. The device according to claim 9, wherein the audio source is a mobile music supply device and which further comprises a generator coupler removably attaching the electrostimulation generator to the music supply device and shaped to permit a user to carry the electrostimulation generator.

14. The device according to claim 9, wherein:

the audio source has a standard audio output;

the at least one audio speaker is within the earbud; and

the electronic signal conduit comprises:

a speaker conduit conductively connected to the at least one audio speaker and having a standard audio jack shaped to be inserted into a standard audio output to receive therefrom the music signal; and

an electrostimulation conduit conductively connecting the audio-signal-modulated Vagus nerve electrostimulation signal to a respective one of the at least two electrostimulation electrodes.

15. The device according to claim 9, wherein:

the earbud has a speaker assembly having at least one speaker;

the electrostimulation generator wirelessly transmits the Vagus nerve electrostimulation signal; and

the electrode coupler has a receiver:

receiving the Vagus nerve electrostimulation signal;

receiving the music signal;

conductively connected to the at least two electrostimulation electrodes to thereby provide Vagus nerve electrostimulation to the at least two electrostimulation electrodes; and

conductively connected to the at least one audio speaker to thereby provide the music signal to the at least one speaker.

16. An electrostimulation device to be connected to an audio source supplying a music signal, the device comprising:

a transcutaneous electrostimulation generator receiving the music signal and providing at an output a Vagus nerve electrostimulation signal modulated by the music signal;

an electronic signal conduit having at least two conductive leads conductively connected to the output of the electrostimulation generator;

an electrode coupler comprising:

an earbud:

shaped to form fit inside an ear canal of a human ear;

having at least two different, electrically conductive exterior surface portions;

having at least two electrostimulation electrodes:

conductively connected to a respective one of the at least two conductive leads of the electronic signal conduit to receive the Vagus nerve electrostimulation signal; and

conductively connected to the at least two exterior portions to contact tissue within the ear canal when the earbud is disposed therein and to apply the Vagus nerve electrostimulation signal from the at least two conductive leads to the tissue transcutaneously; and

at least one audio speaker within the earbud and receiving the music signal for output into the ear canal when the electrode coupler is worn, the electrostimulation generator supplying the Vagus nerve electrostimulation signal while the music signal is output.

17. The device according to claim 16, wherein the electrostimulation generator is one of:

wirelessly connected to the audio source; and

directly connected to the audio source.

18. The device according to claim 16, wherein the at least one audio speaker is one of:

wirelessly connected to the audio source; and

directly connected to the audio source.

19. The device according to claim 17, wherein the at least one audio speaker is one of:

wirelessly connected to the audio source; and

directly connected to the audio source.

20. The device according to claim 16, wherein the earbud is composed of a pliable material that conforms to the ear canal when inserted therein.