CLAIMS

1. A connector permitting acoustic and digital transmission from a stethoscope, the connector comprising:

a first piece communicatively coupled to a chest piece of the stethoscope through a first extruded channel;

a second piece communicatively coupled to an earpiece of the stethoscope through a second extruded channel;

an inner element at least partially within the first piece and displaceable within the first piece, wherein the inner element includes at least two first-piece end openings on an end of the first piece and at least two second-piece end openings on an end of the second piece;

an inner element channel within the inner element in line with the first extruded channel and the second extruded channel, in a first position to provide an acoustic mode of functioning, wherein one of the first-piece end openings and second-piece end openings are collinear with the inner element channel, the first extruded channel, and the second extruded channel, and wherein the first extruded channel, the inner element channel, and the second extruded channel have diameters that decrease in a direction of sound;

a first transducer inside the inner element past one of the first-piece end openings to substantially block acoustic transmission from the first extruded channel;

a second transducer inside the inner element before one of the second-piece end openings, wherein, in a second position, the first transducer is in line with the first extruded channel and the second transducer is configured to be in line with the second extruded channel to provide an electronic mode of functioning; and

a switch configured to displace the inner element between the first position and the second position so as to switch the connector between the acoustic mode and the electronic mode.

2. The connector of claim 1, wherein the switch is configured to displace the inner element in one of angular displacement and linear displacement.

3. The connector of claim 2, wherein the first piece includes a first partial-circumferential slit to provide the angular displacement.

4. The connector of claim 1, wherein the switch is a knob extending from the inner element, wherein the knob is configured to displace the inner element by angularly displacing the inner element between the first position and the second position, and wherein the knob extends from the inner element through a first partial-circumferential slit (18).

5. The connector of claim 1, wherein the inner element includes at least one of, said first transducer and a transmitter, and said second transducer and a receiver.

6. The connector of claim 1, wherein the inner element is a cylinder with a first end and a second end, wherein the first end includes at least two openings, and wherein the second end includes at least two openings.

7. The connector of claim 6, wherein, in the first position, a first opening is in line with the first extruded channel and extends into an inner element channel that traverses a length of the inner element, and wherein, in the second position, a second

opening is in line with the first extruded channel and in line with said first transducer in-line and behind the second opening.

8. The connector of claim 1, wherein, the inner element includes a first inner element part and a second inner element part that are complementary such that the second inner element part slides into the first inner element part, and wherein the first inner element part includes at least two openings and the second inner element part includes at least two openings.

9. The connector of claim 1, wherein when the switch moves from the first position to the second position, the inner element channel is in line with the first extruded channel, and wherein when the switch moves from the second position to the first position, the first transducer is in line with the first extruded channel.

10. The connector of claim 1, wherein the second piece includes a second slit and the first piece includes a first slit corresponding to the second slit such that when the second piece is completely within the first piece, the first slit and the second slit overlap seamlessly, and wherein the second slit is a partial-circumferential slit and extending orthogonally from its one end, parallel to the axis of the connector to form an axis-wise channelled notch that opens at the open-end of the second piece.

11. The connector of claim 1, wherein the inner element includes at least a first inner element and a second inner element, wherein the first inner element includes the first transducer and a transmitter at a chest-side end behind the second opening so that in the electronic mode of operation, the first extruded channel and the transducer are collinear, co-axial, and abutting each to prevent acoustic loss outside the channel.

12. The connector of claim 11, wherein the first inner element is spaced apart from the second inner element so as to achieve a split electronic wireless mode of functioning.

13. The connector of claim 1, wherein, in the acoustic mode of functioning, the first extruded channel, the inner element channel, and the second extruded channel are collinear and co-axial.

14. The connector of claim 1, further comprising:

a first locking coupler locking and coupling between the first extruded channel and the inner element channel, wherein the first locking coupler is in the first piece in communication with an opening of the inner element that is in communication with the first extruded channel.

15. The connector of claim 14, wherein the first locking coupler is in communication with another opening of the inner element that is in communication with the first extruded channel.

16. The connector of claim 14, wherein the first locking coupler is a spring-loaded coupler and tapering in its dimension along its longitudinal axis from the first extruded channel to an inner element channel.

17. The connector of claim 1, further comprising:

a first locking coupler, wherein the inner element includes a first end and a second end, wherein the first end includes at least two openings and wherein the second end

includes at least a first acoustic opening on the first piece side of the inner element that includes a hemispherical cam profile to receive a first locking coupler.

18. A connector of claim 14, further comprising:

a second locking coupler locking and coupling between the second extruded channel and the inner element channel, wherein the second locking coupler is a spring-loaded coupler and tapering in its dimension along its longitudinal axis from an inner element channel to the second extruded channel.

19. The connector of claim 1, further comprising:

a first centre rod and a second centre rod configured to provide support along a longitudinal axis along which the inner element angularly displaces.

20. The connector of claim 19, wherein the first centre rod has its first end support at the first piece and its second end support at the inner element.

21. A connector of claim 19, wherein the second centre rod has its first end support at the second piece and its second end support at the inner element where the first end rod ends.

22. A connector of claim 19, wherein the first end rod and the second end rod are collinear and co-axial.

23. The connector of claim 1, wherein in the electronic mode of functioning, the first extruded channel and the first transducer are in line and the second transducer is in line with the second extruded channel.

24. The connector of claim 1, wherein in the electronic mode of functioning, the first transducer is in line with direction of sound and the first extruded channel, and wherein the second transducer is in-line with the direction of sound and, in line with the second extruded channel.

25. The connector of claim 1, wherein the inner element includes a first inner element and a second inner element, the connector further comprising:

a first electronic board in the first inner element and configured to receive connector pins from a second electronic board in the second inner element to charge a battery to be used in an electronic wireless mode of functioning and power the first electronic board.