Claims

1. A modular speaker component for retrofitting to different rigid containers (30) having different volumes and having an opening symmetrical in two mutually perpendicular axis to form a speaker assembly, the component compromising:

    a fixed support member (10) having at least two installation ports therethrough,

    an active loudspeaker unit (1) and at least one passive diaphragm unit (20) installed at their respective installation ports of the fixed support member (10) and sealingly engaged with the fixed support member (10); and

    a sealable connector member (11) attached to an extending from a perimeter of the fixed support member (10), wherein a continuous outer surface of the sealable connector member defines a seal therealong for sealingly engaging with an opening (31) of a rigid container (30) without the use of further fasteners to form an airtight resonant space (32) therein.

2. The modular speaker component of claim 1, wherein the sealable connector member (11) uses the seal to align, connect and secure the fixed support member (10) to opening (31) of the rigid container (30) to cause the fixed support member (10) and the rigid container (30) to jointly form the resonant space (32).

3. The modular speaker component of claim 1 wherein the rigid container (30) is a sealed speaker with a phase inversion device, and wherein the phase inversion device refers to any phase inverter tube (32), labyrinth path, horn path or arbitrary combination of the three.

4. The modular speaker component of claim 1, wherein the or each passive diaphragm unit (20) and the active loudspeaker unit (1) are oriented the same direction, and wherein the or each passive diaphragm unit (20) is distributed at a periphery of the active loudspeaker unit (1).

5. The modular speaker component of claim 4, wherein the passive diaphragm units (20) uses at least one ring-shaped structure at the fixed support member (10), wherein an inner part of the ring-shaped structure is filled by the loudspeaker unit (1), and wherein an outer part of the ring-shaped structure reaches the sealable connector member (11).

6. The modular speaker component of claim 1, wherein the vibration directions of the passive diaphragm units (20) all intersect a central axis of the fixed support member (10) wherein the active loudspeaker unit (1) and the passive diaphragm units (20) are all rotationally symmetric around the central axis of the fixed support member (10); and wherein the passive diaphragm units (20) are distributed at a periphery of the active loudspeaker unit (1).

7. The modular speaker component of claim 6, wherein the passive diaphragm units (20) are entirely rotationally symmetric, and wherein the passive diaphragm units (20) take up a side area of the fixed support member (10).

8. The modular speaker component of claim 2, wherein a projection locations of the active loudspeaker unit (1) and the or each passive diaphragm unit (20) on the opening (31) of the rigid container (30) are entirely located within a largest outer diameter of the sealable connector member (11).

9. The modular speaker component of claim 2 wherein the active loudspeaker unit (1) has a back loaded form relative to the resonant space (32).

10. The modular speaker component of claim 1, where in the fixed support member (10) the sealable connector member (11) and the or each passive diaphragm unit (20) have an integrated molded structure.

11. The modular speaker component of claim 1, wherein the sealable connector member (11) is fixed on the rigid container (30) with an adjustable volume using the said seal.

12. The modular speaker component of claim 1, wherein the seal forms a flat surface, and wherein through a weight of the entire component itself, the seal is placed on a horizontal surface to form a sealed form.

13. The modular speaker component of claim 1, wherein the active loudspeaker unit (1), the or each passive diaphragm unit (20) the sealable connector member (11) and the seal are all located on the same flat surface, wherein the seal is fitted tightly to an installation

hole of a sealed container, and wherein the entire component thus constitutes an embedded form.