

The invention is based on a loudspeaker unit in accordance with the preamble of claim 1. This type of loudspeaker is known from US-A-3 575 370.

The object of the invention is to improve this type of loudspeaker unit so as to achieve a connection of simpler manufacture between the outer support and the chassis frame of the loudspeaker, which is particularly advantageous in the mass production of television sets.

This object is achieved by the invention stated in Claim 1. Preferred embodiments of the invention are described in the dependent claims.

A loudspeaker unit is also known (EP-A-0 024 461), in which the chassis frame of the loudspeaker is secured between two members which are assembled by means of a detent connection. However, here the chassis frame of the loudspeaker is not fixed directly to the outer support by means of a detent connection and does not have any elements for positive detent connection either.

A loudspeaker unit is also known (US-A-4 424 881), in which a hood is fixed to a base member by means of a positive detent connection, in order to facilitate easy replacement of the hood. This does not however relate to fixing a loudspeaker to the outer support of a loudspeaker unit.

The invention will be described in the following by way of the drawings together with several embodiments. In which:

- Fig. 1 shows a chassis frame of a loudspeaker
- Fig. 2 shows an embodiment for an outer support having resilient elements
- Fig. 3 shows another embodiment for an outer support without resilient elements
- Fig. 4 shows a side view and
- Fig. 5 shows a plan view on to the loudspeaker

Fig. 1 shows a chassis frame 7 of a loudspeaker for lateral and end face assembly on an outer support. Regions are provided for lateral assembly comprising raised portions 5 which are opened conically towards the edge of the chassis frame 7 of the loudspeaker and regions of the chassis frame 7 of the loudspeaker are also provided comprising elongate concave recesses 6 in the material. Projections 9 and a movable projection 8 are provided for end assembly of the chassis frame 7 of the loudspeaker on an outer support. The projection 9 is arranged on a first end of the chassis frame 7 of the loudspeaker as a continuation of the material. It takes the shape of a rectangular tongue. Opposite to this projection 9, on the other end face of the chassis frame 7 of the loudspeaker is located the movable projection 8 which is U-shaped and its first limb facing the projection 9 is connected to the chassis frame 7 of the loudspeaker. This first limb also has a support 13. On the other limb of the U-shaped projection 8, which is longer, is located a wedge-shaped attachment 14, the tip of which is located at the end of the limb and the broadened surface of which is located at the level of the chassis frame 7 of the loudspeaker.

Fig. 2 shows a loudspeaker unit, in which the points of connection of an outer support 3 to the side edges of the chassis frame 7 of the loudspeaker are locked in position. Thus the outer support 3 has movable projections 2, so-called snap-in projections and fixed projections 1. The fixed projections 1 of the outer support 3 project into the raised portions 5 opened conically towards the outer support. When pressing the chassis frame 7 of the loudspeaker against the outer support 3 the projections 2 engage behind the chassis frame 7 of the loudspeaker at the recesses 6. As a result there is a firm connection between the chassis frame 7 of the loudspeaker and the outer support 3.

Fig. 3 shows a further loudspeaker unit, in which the end connecting elements connect the chassis frame 7 of the loudspeaker and the outer support 11 together. During assembly the tongue-like projection 9 of the chassis frame 7 of the loudspeaker engages behind the recess 10 on the end face of the loudspeaker outer frame 11. A similarly constructed recess 10 is also present on the opposite end. When pressing the chassis frame 7 of the loudspeaker against the outer support 11 the movable projection 8 engages behind the said recess 10 with the broadened surface of the wedge-shaped attachment 14. The outer support 11 is so constructed that assembly of the chassis frame 7 of the loudspeaker to the outer support 11 is simplified by lateral guide legs 15. The same also applies to the outer support 3 having guide legs 12.

Fig. 4 shows a side view of a loudspeaker. The loudspeaker comprises a magnetic system 19, a chassis frame 16, an upwardly beaded edge 17 and a snap-in device 8,9. A seal 18 is located on

the radiating surface of the loudspeaker.

Fig. 5 shows a plan view of the loudspeaker. As may be gathered from Fig. 4, the seal 18 projects beyond the edge 17 of the loudspeaker. Thus the loudspeaker is clamped to the outer cover support.

Patent Claims

1. A loudspeaker unit with an outer support (3) and a loudspeaker chassis frame (7), which are connected together by means of positive detent means having resilient elements (2,8), characterised by the following features:
 - a) for an outer support (3) without resilient elements the loudspeaker chassis frame (7) includes on a first side a tongue-like rigid projection (9), which can be inserted into a recess (10) on the outer support (3), and includes on a second opposite side a U-shaped resilient projection (8), one limb of which is connected to the chassis frame (7), the other free limb with a barb (14) being capable of locking into a recess (10) on the outer support (3);
 - b) for an outer support (3) with resilient elements (2) the chassis frame (7) includes on the third and fourth sides raised portions (5) opened conically to the edge of the chassis frame (7) for the engagement of fixed projections (1) on the outer support (3) and adjacent thereto includes elongate, concave recesses (6) in the material, at which recesses (6) resilient projections (2) of the outer support (3) engage behind the chassis frame (7).
2. A loudspeaker unit according to claim 1, characterised in that the fixed projections (Fig. 2:1) lie opposite the resilient projections (2).
3. A loudspeaker unit according to claim 1, characterised in that the resilient projection or projections (8) of the loudspeaker chassis frame (Fig. 3:7) lie opposite to the rigid projection or projections (9).
4. A loudspeaker unit according to claim 1, characterised in that in order to avoid distortion a seal (Fig. 4,5:18) is formed larger than the outline of the loudspeaker chassis frame (16).
5. A loudspeaker unit according to claim 4, characterised in that an edge (Fig. 4,5:17) of the loudspeaker chassis frame is flanged away from the bearing surface of the loudspeaker chassis frame.

