ESX V1100Av2 – Bass enclosure for the spare wheel rim

Invisible bass

At ESX, a successful model is entering its second round; the active subwoofer V1100A is available as v2 from specialist retailers. Reason enough to put it into test operation.

The V1100A was one of the first active subwoofers in this country to come up with a new idea. When looking for a place to install the subwoofer that takes up as little space as possible, you might consider taking a subwoofer instead of a spare wheel. Many vehicles still have a sufficiently large spare wheel well, even though they are delivered with puncture spray. But when it comes to keeping a full-fledged spare wheel, the ingenious idea of accommodating the subwoofer inside the rim comes into play. With clever construction, a subwoofer can be created that takes up no space at all and yet can still perform to its full potential. The housing of the subwoofer is made of cast aluminum; starting with wood here would be a waste of time because of the thicker walls would cost too much volume. The housing is divided horizontally, its lower half is placed on the inside of the rim (from 15 inches) and can be seen as an extended basket for the woofer. The woofer is thus as large as possible, in the case of the V1100Av2 11 inches. It works with a heavy aluminum membrane according to the downfire principle, so that the membrane points downwards, a spacer with foam rubber ensures the necessary freedom of movement of the membrane. On top of this is the upper half of the housing, which has a round recess in the middle through which the woofer can insert parts of the pole plate into the Free stretches. This trick is important for the secure attachment of the subwoofer housing in the spare wheel rim. The housing has a continuous pole core hole so that it can be tightened together with the spare wheel using the enclosed mandrel. On the

Through-hole pole core for fastening and inner bead for sealing

Woofer basket and housing form a single component made of cast aluminum

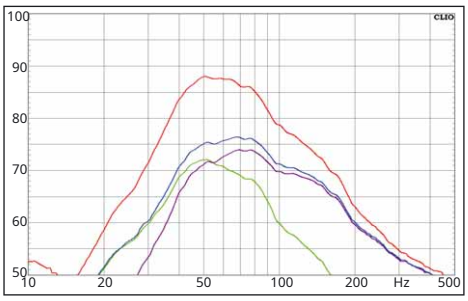
The membrane must not be a dust cap, of course, but instead there is a rubber surround that seals the cone to the pole core. An active subwoofer naturally also contains electronics, which are distributed across three boards in the V1100Av2. The first carries the power supply inputs including fuses, and special praise goes to the generous plug connection, which, unlike the standard Molex, also accommodates thicker cables. Opposite we find the signal input, here correctly and practically designed with a 10-pin Molex, which offers both RCA sockets for low-level signals and loose wires for high-level signals. The controls for low-pass, subsonic, boost and phase reversal are easily accessible on the top of the housing, and the included remote control is only for level control. The third board carries the actual power amplifier, and ESX does not experiment here; like its predecessor, a classic Class-AB mono with a fairly powerful power supply is used.

measurements and sound

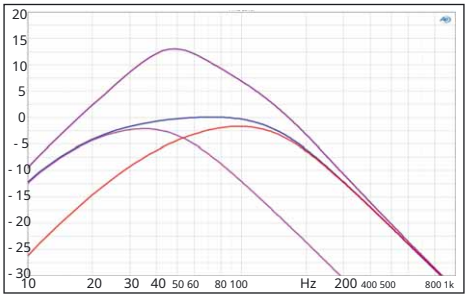
At the test station, the power amplifier turns out to be a solid piece of equipment that does its job well and without any problems. We determine 156 watts for the V1100Av2, enough for a 9 liter woofer and even really good in the compact class. The acoustic output can be more than just a sight to behold. Thanks to the relatively high weight of the vibration unit with thick aluminum membrane and 76 millimeter voice coil, the woofer reaches down 40 Hz, more than respectable. The filters work well and are practical, so we have nothing to complain about. In the listening test, the V1100Av2 turns out to be a full-fledged sounding subwoofer that doesn't shy away from low tones. It confidently spreads out its bass foundation and copes well with pretty much any style of music. It follows fast bass lines effortlessly and runs out of steam late on with heavy bass sounds. You can hardly get more out of the given volume.

The controls are easily accessible on the top of the housing

Above the power amplifier board with a classic Class-AB circuit and transformer power supply



The very compact V1100Av2 works deep into the frequency cellar, 40 Hz from 9 liters is a strong statement



The frequency response of the power amplifier shows that the subsonic is not very steep, the boost brings 12 dB at about 45 Hz

Conclusion

The V1100Av2 integrates perfectly into the vehicle, makes a great impression of quality and simply works really well. Therefore, the price is reasonable.

Elmar Michels

BEST PRODUCT
compact class
CAR&HiFi 6/2024

ESX V1100Av2

Price	around 350 euros
distribution	Audio Design, Kronau
hotline	07253 9465-0
Internet	www.audiodesign.de

Evaluation

sound	30%	1.1
draft	7.5%	1.0
Pressure	7.5%	1.0
cleanliness	7.5%	1.0
dynamics	7.5%	1.5
laboratory	40%	0.9
frequency response	10%	1.0
maximum level	10%	0.5
power amplifier performance	20%	1.0
processing	30%	1.3
equipment	10%	1.5
processing electronics	10%	1.5
processing mechanics	10%	1.0

Technical data

case width	36.0 cm
case height	15.0 cm
case depth	36.0 cm
design/volume	g 9.0 l
reflex channel (dxl)	–
Weight	9.1 kg
chassis diameter	28 cm
nominal impedance	2 ohms
voice coil diameter	64 mm
Power at nominal impedance	156 W
Sensitivity Cinch max.	100 mV
Sensitivity Cinch min.	4.0 V
THD +N (<22 kHz) 5 W	0.06%
THD +N (<22 kHz) half load	0.18%
Signal-to-noise ratio (A bew.)	101 dB

equipment

low-pass filter	50 – 150 Hz
bass boost	0 – 12 dB/45 Hz
subsonic filter	10 – 50 Hz
phase shift	polarity reversing switch
low-level inputs	•
high-level inputs	•
automatic switch-on	• , DC
start-stop capability	– (7.8 V)
remote control	• , Gain
Miscellaneous	in spare wheel rim

ESX V1100Av2

compact class 1.1

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Price/performance: very good

"Clever and well done, a well-rounded thing."