Subject: Re: Hornsub shootout RESULTS - Tuba 24
Posted by Wayne Parham on Sat, 15 Oct 2005 18:20:16 GMT
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Tuba 24 basshorn sub

The Tuba 24 was the first to be tested. It weighs in at about 65 lbs and measures 24" x 24" x 24". It uses a single Eminence HL10A, although this one has a prototype HL10C driver. The difference is the C model is 4 ohms and has a smaller 0.75" cooling vent. Other than that, performance appears to be identical.

Specifications:

Weight: 65lbs
Dimensions: 24" x 24" x 24"
Power handling: 300wrms

Frequency range: 40Hz - 200Hz
Sensitivity: 102dB/W/M
Max Output: 128dB/M
Distortion at 100 watts: 5%

34.6v for 200 watts, 49v for 400 watts and 60v for 600 watts.

Next, we measured output at 28.28v. This is a little more than 100 watts. Since we measured 10 meters away, the values correspond to 2.83v/1M.

[align=center]
[b]Tuba 24 response at 10 meters with 28.28v input (2.83v/1M)

From this, we perform an inverse FFT to obtain impulse and step response:

Tuba 24 Impulse Response

Tuba 24 Step Response

Measurement at 100 watts:

Tuba 24 response at 10 meters with 24.5v (100w) input (1W/1M)

The blue line is SPL, and the violet line shows distortion. Average distortion is 25dB under the fundamental, which is about 5%. Since measurement was taken at 10 meters, add 20dB to find

SPL at 1 meter. With 100 watts input, the 10 meter measurement works out the same as 1 watt input measured at a distance of 1 meter.

Measurement at 200 watts:

Tuba 24 response at 10 meters with 34.6v (200w) input

Output at 200 watts measured at 10 meters is about 105dB average between 70Hz and 170Hz, which is 125db at 1 meter.

Measurement at 400 watts:

Tuba 24 response at 10 meters with 49v (400w) input

Output at 400 watts measured at 10 meters is about 108dB average between 70Hz and 170Hz, which is 128db at 1 meter.

Measurement at 600 watts:

Tuba 24 response at 10 meters with 60v (600w) input

Increasing power from 400 watts to 600 watts results in little increased acoustic output.