TABAQ MICRO 2 inch

Quarter Wave designed for Tang Band W2 803 SM

By Bjorn Johannesen, bjohannesen@post.cybercity.dk, designed with software, which is the property of Martin J. King, http://quarter-wave.com/. Please feel free to build it for your own private pleasure.

The result

This little driver, only 2”, has an Fs of 160 Hz. You might even doubt if this could be called a full range.

Nevertheless, I tried it out with the well-known TABAQ layout, adjusted to this small driver.

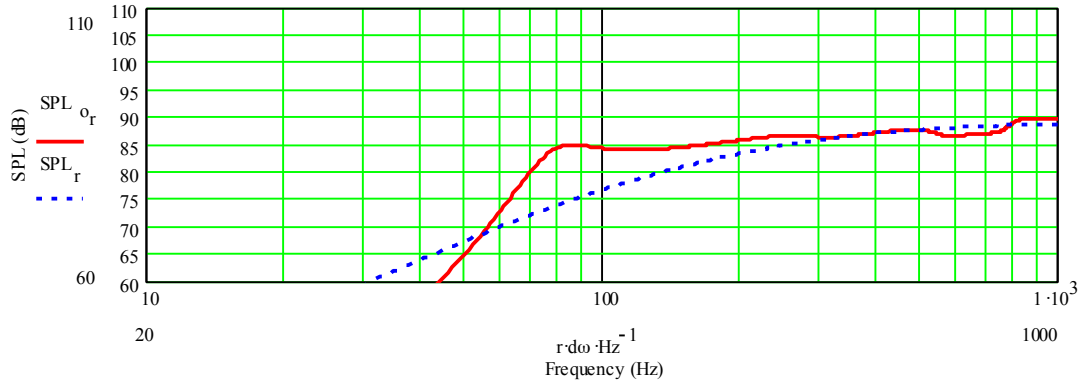
The tuning of the cabinet is 80 Hz and the volume is large for this small driver. Stuffing is in the entire line, except for the aperture. The upper 2/3 of the line is stuffed with a higher density than the last 1/3 of the line. I tested alternative stuffing, but ended up with the stuffing from the simulation.

The simulation showed a need for baffle step correction. However, after testing, I decided not to use any baffle step circuit.

How does is sound: Very well – driver size and price taken into consideration. It is hard not to get a smile on your face when you hear what this small driver is capable of. Of course this is not a party speaker a the SPL is limited.

The sound is, as one will expect, to the brighter side with a small peak at 4 kHz. The bass is dropping a little from about 125 Hz, but is reaching down to 65 Hz. This is -15 dB compared to 1 kHz but still auditable. A small lift in the bass on your PC equaliser or similar makes the speaker very nice to listen to.

Summed SPL

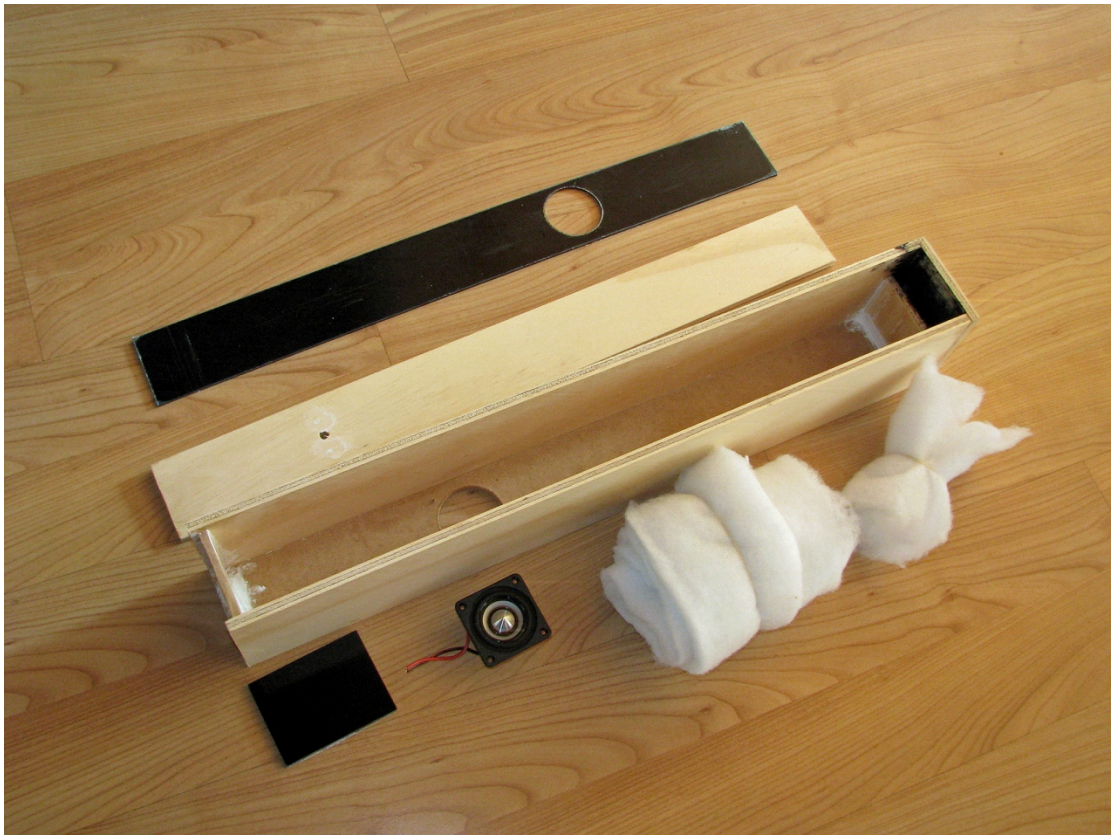


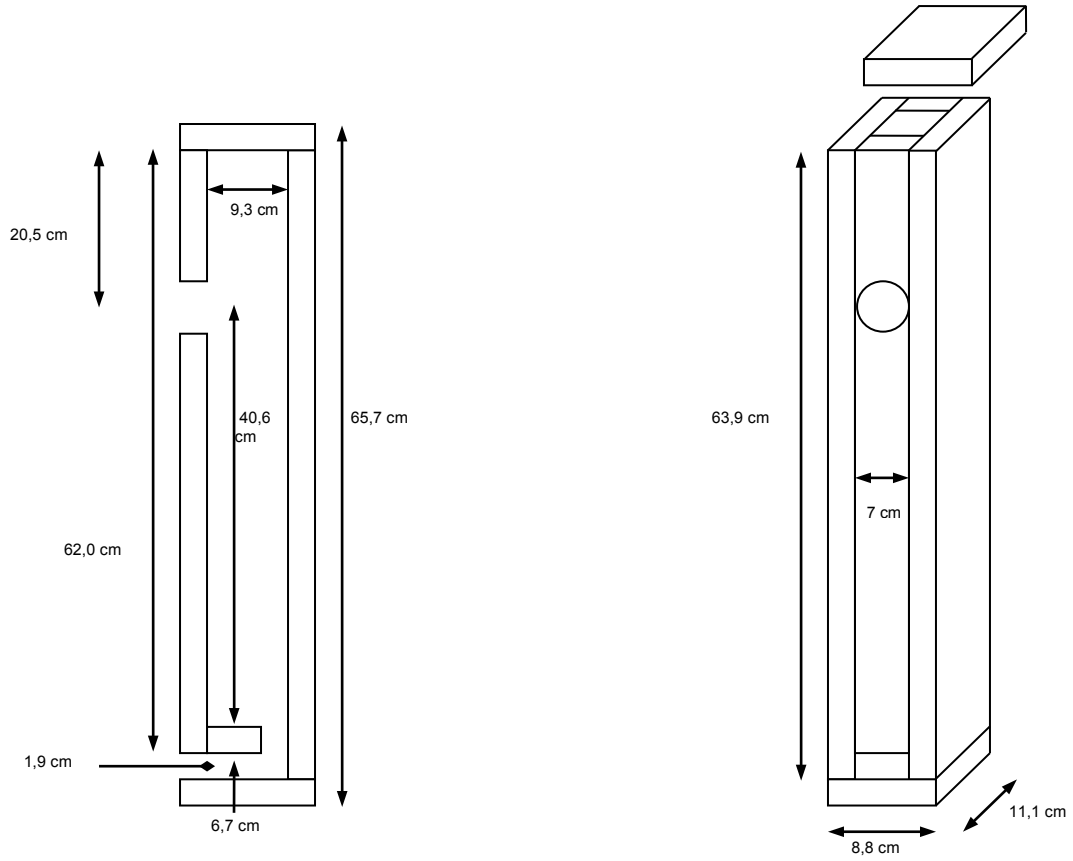
The simulation above is close the real life result. The speaker has a more gentle roll of but the 65 Hz point at -15 dB is almost exactly as predicted in the sim above.

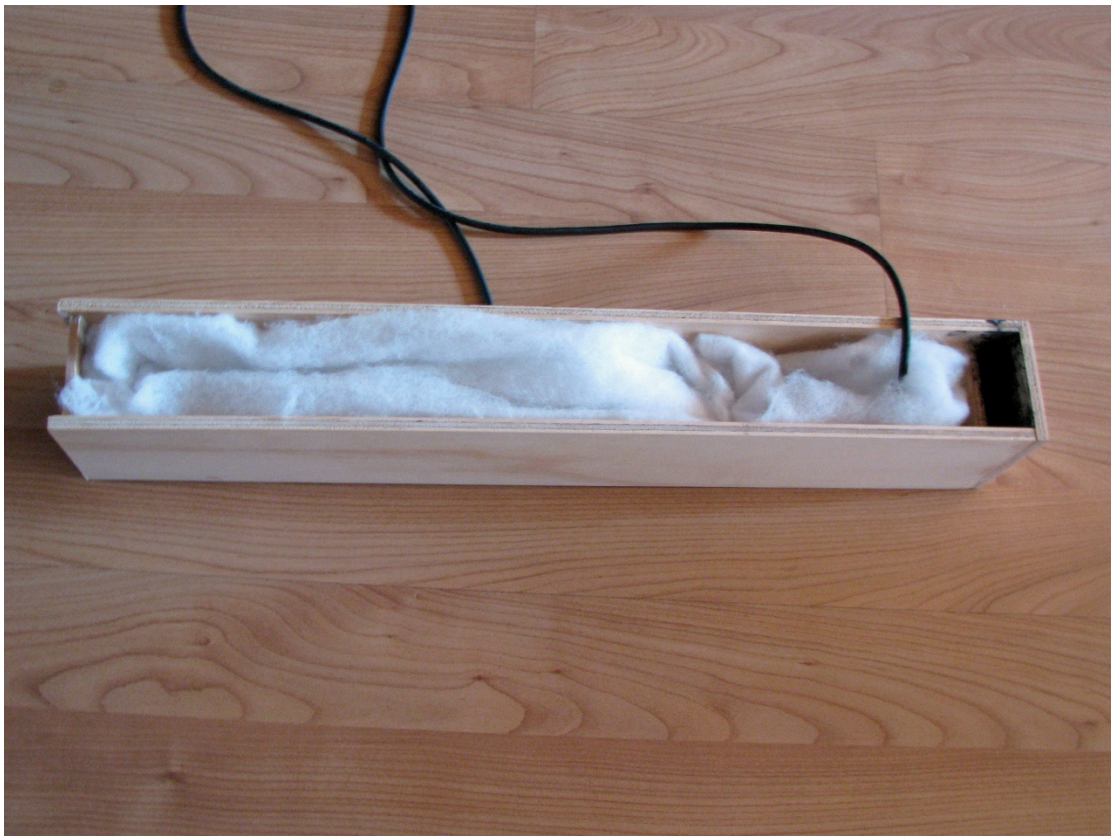
Stuffing
Upper 2/3: 38 gram
Last 1/3 towards the opening: 6 gram
Opening is not stuffed

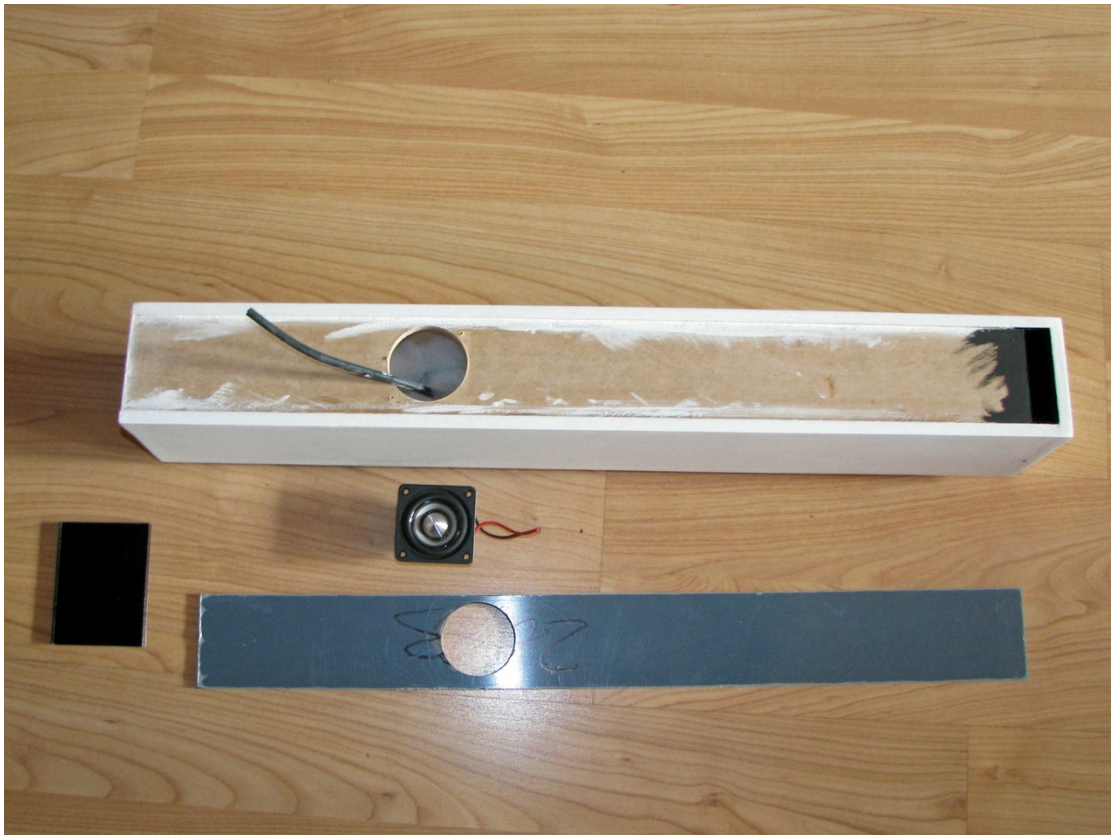
Enclosure
9 mm

1	620 x 70	Front
1	639 x 70	Back
2	639 x 111	Side
2	88 x 111	Top Bottom
1	67 x 70	Port



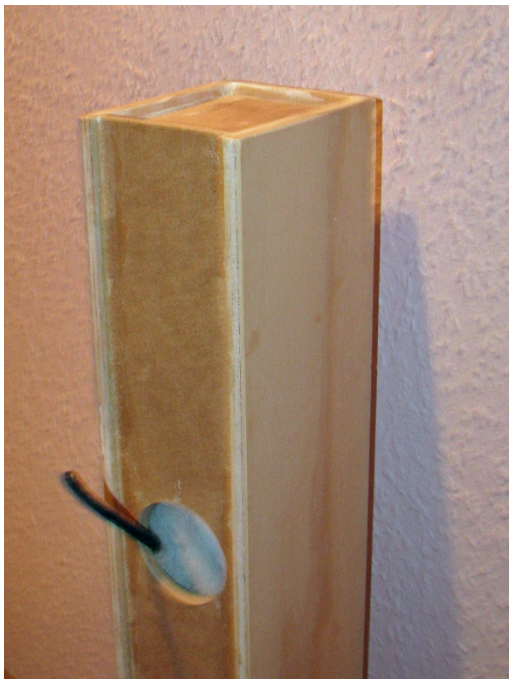

20,5 cm
9,3 cm
40,6 cm
65,7 cm
62,0 cm
1,9 cm
6,7 cm
63,9 cm
7 cm
11,1 cm
8,8 cm





2” and 4” side by side. 66 and 83 cm tall.

The finish



The top is 4 mm black glass and the front is 2 mm acrylic. Both where cut at the shop in the right sizes. I only had to drill the hole in the front.

The top is a small deviation from the “blue print”. Instead of the top I used 6 mm MDF mounted 4 mm down in the opening.

I mounted the front baffle 2 mm lower to make space for the acrylic front.

Conclusion

The 2” driver can be used as a full range, personal speaker. There is no deep bass of course but at low level you can squeeze some more bass out of the speaker.

These speakers are easy to build at almost no money and the performance is better than you would expect.

Have fun !

Bjørn Johannesen