Tannoy Vintage Box

By Sebi

It all started from my little valve amp build by my very good friend, a keen electronic engineer-amateur, Ludwik Fraczak . We studied medicine together 25 years back and ever since I know him he was drawing schematics and thinking of all kind solutions to potential designing problems in his new electrical circuits ideas☺. Anyways I asked him couple years ago for building valve amp since after attending audio show I liked the way they sound very much. And he did a good job in terms of quality of sound it delivers. But it did not have enough power to drive my speakers: Celetion 300 florstandings which I owned for years and admire. So I asked him to rebuild amp to deliver more ” juice” to my transmission line boxes. And he…….. refused. He said that it will be no problem for him to build high current push-pull unit, but will never compromise the quality of sound and that what is going to happened if he does so. Hmmm, he got me thinking: maybe there is something in that stubborn approach to amp design? So the only option was to change my 84dB speakers for something more efficient. That is the moment when I came across hiberlink.nl site☺. After reading carefully all the information in the web I decided to buy a pair of Tannoys HPD 385 and build cabinets for them. I have to mention that I already had Tannoys DC200, Mercury little monitors and Saturn 8. I liked the sound of that Tannoys a lot!

My “sound guru” gave me some advices:

1. very good idea with dualconcentric design, as it is the only true “one point” source/driver (best for stereo)
2. try to eliminate “back” sound since it is impossible to perfectly align it with the sound coming out of front of driver, and stereo will suffer (forget bass reflex). To achieve that try to make as long transmission line as You can, well dumped
3. make sure the cabinets are big enough to generate big sound

4. Don’t buy crossovers since I will redesign and upgrade them for You anyways with “better” components

Now, I have never designed, build or upgrade any speakers besides internal cabling exchange☹. But I knew what I wanted and had some skills and tools at hand☺.

So it started…

I have lost unfortunately pictures from beginning of project (thanks a lot my beloved, little daughter☺). But in the beginning was quite simple:

1. Material: birch plywood 18, 10 and 5 mm thick
2. Cut out the 2 bracelets, top and bottom in U-shape (horse shoe) to prevent standing waves and cool look
3. Use 5 mm plywood watered to “bend over” bracelets. 3 layers glued together
4. Square front 105x45 cm and 105x15 cm back: double 18mm plywood for stiffness
5. Cut out holes for speakers (front) and crossover (back) with molding machine
6. Create 4 inner compartments with three 85 cm long boards of 10 mm plywood. Kind of maze going from top to the bottom and back, a ~4 meter long transmission line dumped with 2 layers (no foam) see below:
7. Put in dumping for energy absorption: 3 layers 2 mm blacktop matt, 2mm blacktop+10 mm felt matt (these came from car audio dumping system, I have it my car done). Finally acoustic foam, 3 cm thick, on the outer walls.

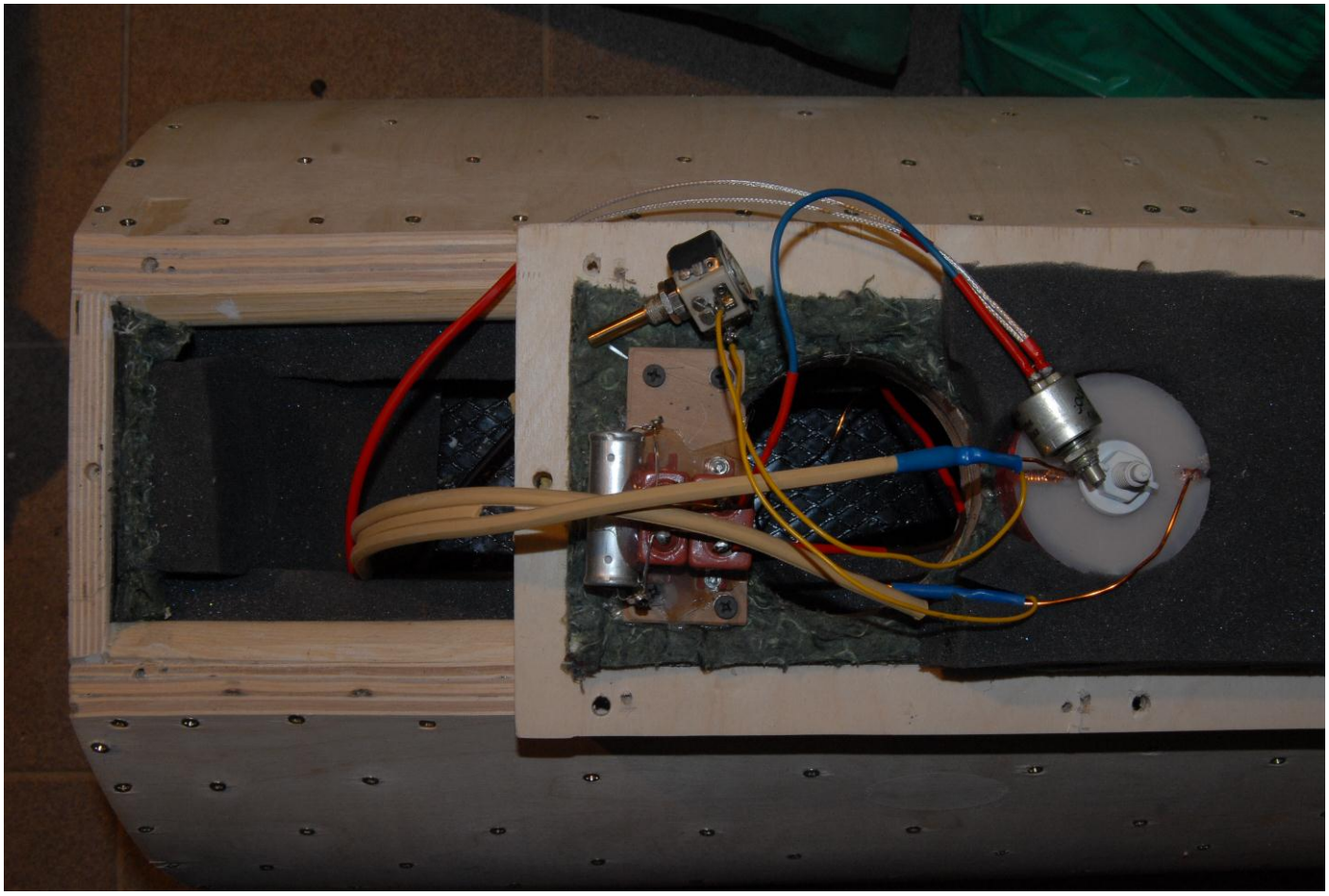
General overview of the inside.

Cables: Van Den Hull for LF and so called “New Silver”, doubled, for HF

Front element dumped also with 3 layers

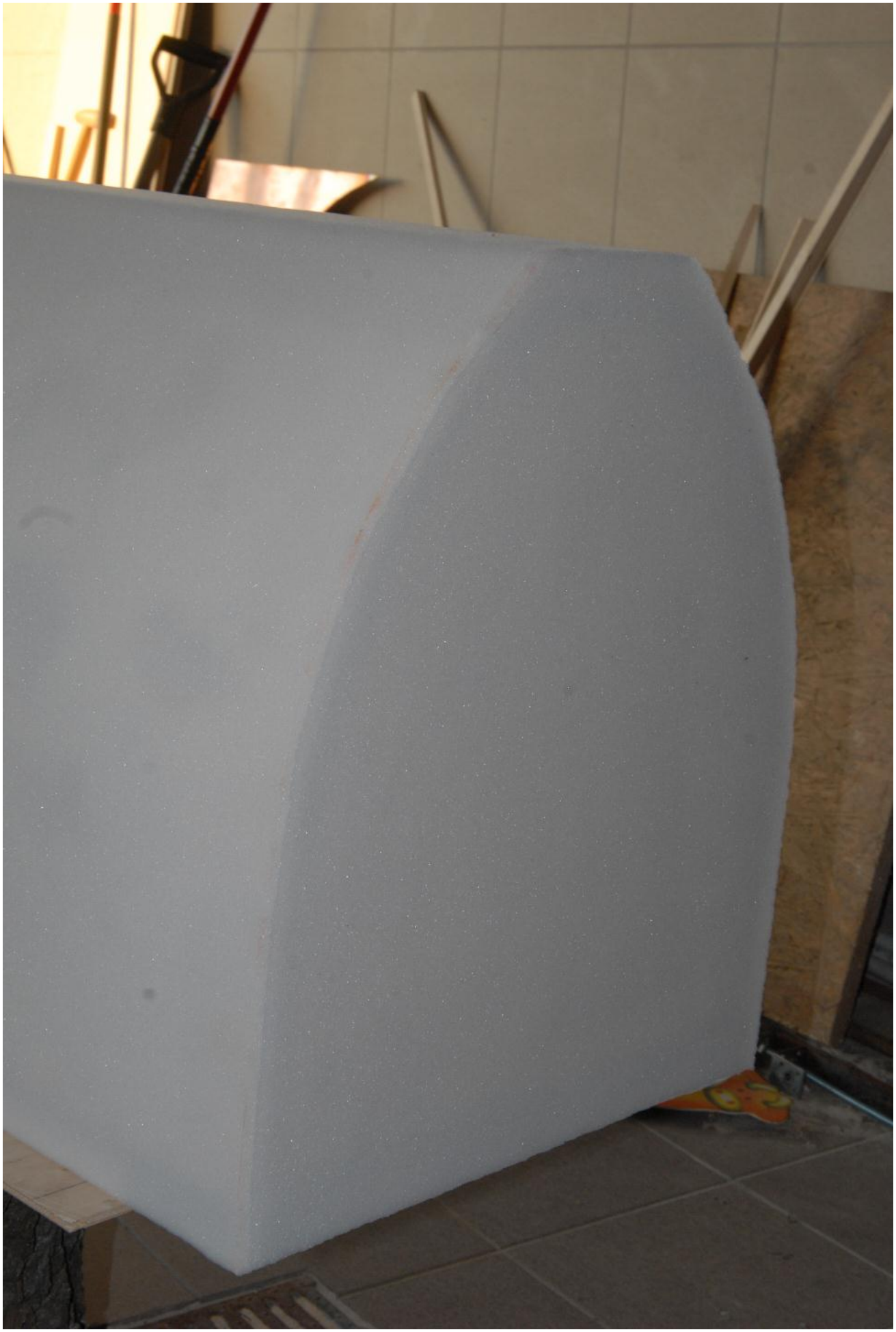
Front element screwed in for testing

Cutting out the hole for crossover access.



Crossover: “as simple as it can only be”, designed and tuned by my friend Ludwik. Fine adjustments were done only to his ear (!), best tuning machine in his opinion. That is because “One should tune the sound to the point he likes it the best, not to any specific parameters”. Basic elements LF: Mundorf thick wire coil (no core) for LF and variable resistor (the bigger one). HF: 2 paper-oil caps (much better than any electrolytic!) 1+2 mF and 0,1 mF teflon cap (ads smoothness clearly auditable, trust me) + 5 OM variable resistor for signal output strength adjustments. Like I mentioned before: as simple as can only be!

Cabinets ready for final “shaping”. Sides screwed and glued together with 3 layers of 5 mm plywood. All the inner corners were sealed with silicon BTW.

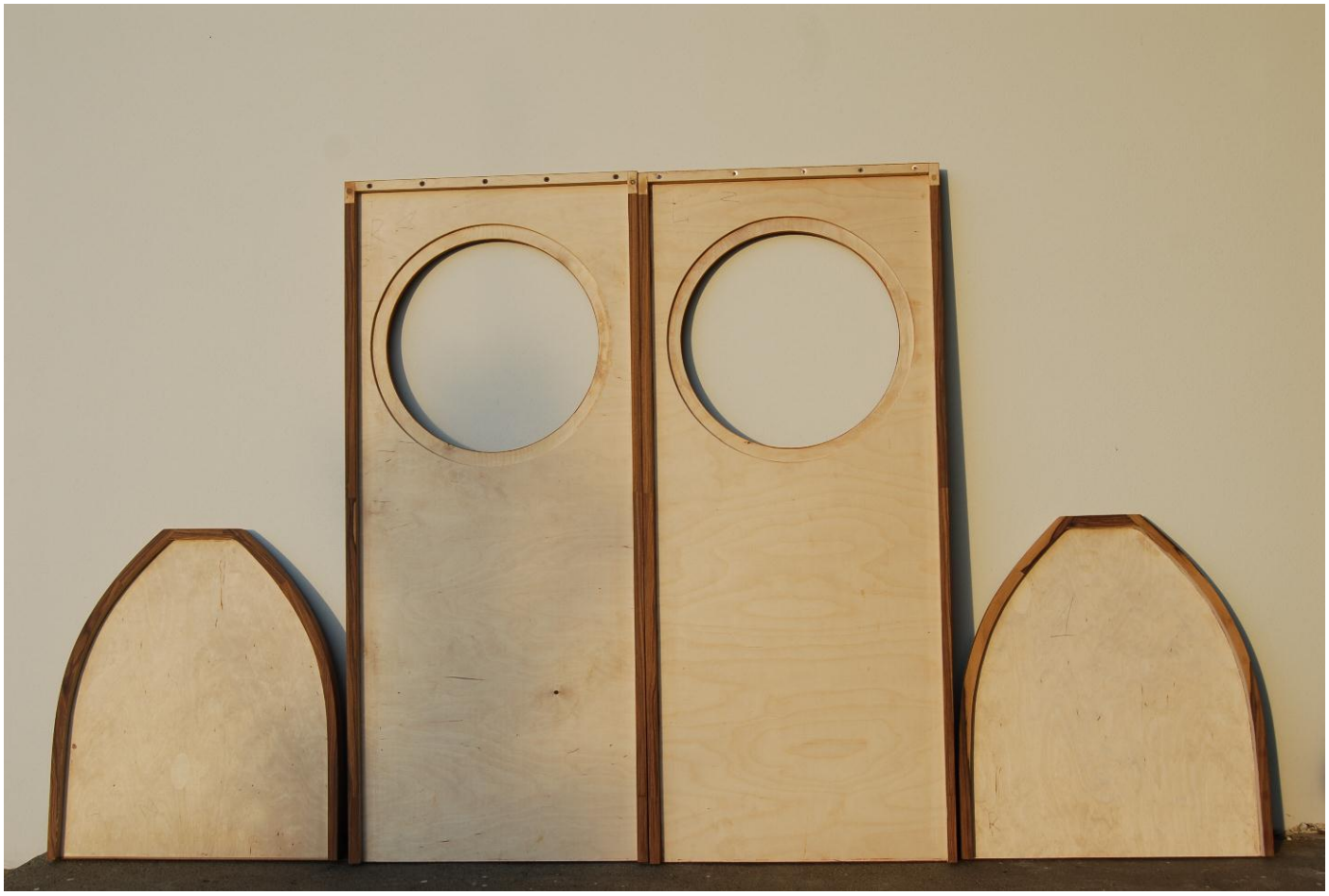


The 5 mm foam glued carefully to do not make “dents” with pushing to much the glued spots. Works perfect as underlayer of leather finish masking small imperfections on the surface of “construction shell”.

Natural leather finish with no sewing on the sides of speaker☺.

No glue, just staple it on the front element.

The bottom of speaker.



Front and top finish elements made with 18 mm plywood, veneer palisander before staining (done by professionalist, high gloss staining too)

Putting all together: glue on the top of speakers, on the bottom screws, removable. The front element is removable in case I would need to get access to speaker. Chocks for perfect alignment of elements of course.

Final result. My daughter’s toys on the floor reflected☺.

Speakers are standing on 3 spikes.

Terminals. Will be finished properly (plate galvanized: chrome plated, nice knobs for resistors etc.). You can see gap between mounting plate and the speaker. This is vent only and you can barely hear any sound coming out of it: car audio damping works really well. Diaphragm works easily and micro dynamic improves.

Original Tannoy medium size badge added.

Side view.

Top view.

Front view.

Full view of system.

And these are the little boys responsible for all that Tannoy Project rumor☺. I don't know how efficient my new speakers are but with the knob set on 12 they sound very loud and these amps are about 5W per channel! I hook speakers to pioneer LX-81 with 170W power per channel when I watch movies and they sound lake stage monsters!

Summary:

The whole project lasted about 3 months since I am rather busy man. It took about 120 hours to finish it, partially because I worked all by myself with no “second pair of hands” to hold it steady☺. Total project cost: 1300 Euro drivers and ca. 1200 Euro the rest. Total cost ca. 2 500 Euro.

The sound:

Lots of sound (macro dynamic great)! Very detailed: excellent micro dynamic, ringing/resonant sound of instruments and voices. Great, open space with respectively big soundstage, with almost perfect stereo imaging. Just great! I definitely did not hear such a sound for that kind of money.

Added value:

The only one set in the world made by myself the way I like it☺. Lots of hours pure fun and relax making them. The next project: center speaker with HPD 315 driver (already bought a pair☺).

If I can be helpful in any way do not hesitate to contact me:

Sebastian Wawrzeniak, e-mail: warseb@o2.pl or warseb@tlen.pl