EMME®
speakers

The DA VINCI

Technical Overview
How the System works

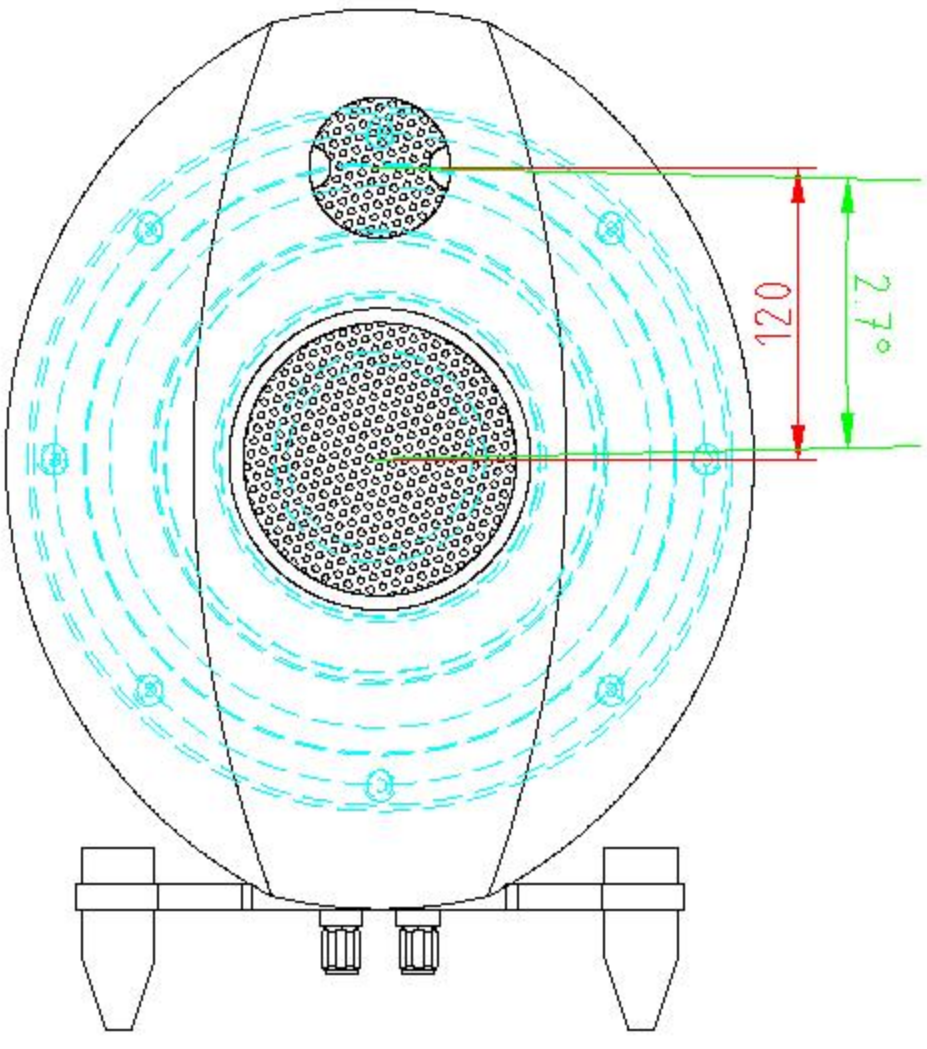
1

The project DA VINCI has represented a new challenger for our Company, with the ambition to create an innovative acoustic scheme enclosed in a revolutionary shape, guided by our usual and brazen determination to explore new technical routes matched with "breaking" concepts of design.

The project requirements were:
1) Full range compact bookshelf loudspeaker
2) High power handling
3) Sealed box
4) BSSE System (Box Shape for sound enhancement) by EMMESpeakers
5) High end sound reproduction

Those base requirements brought us soon to design a new concept of three-ways layout, in which the Woofer has been positioned on the rear baffle.
That solution, that in the first look might appears fancy and without a sense, offers at least two advantages:
- Shift the traditional vertical development to one in depth (req #1).
- Keep the acoustic center in a restrained vertical area, all over the frequency range (req #5).

As it's visible in the picture below, the acoustic center moves only of 120 millimeters, between the Midwoofer and Tweeter, just like an Two-ways system but the DA VINCI is a Three-ways. That means at the listening distance of 2.5 meters, the acoustic centre moves less than 3° degrees, very close to a point source, with evident advantages in terms of soundstage wideness, stability and focalization. An incredible result for an Three-ways loudspeaker.



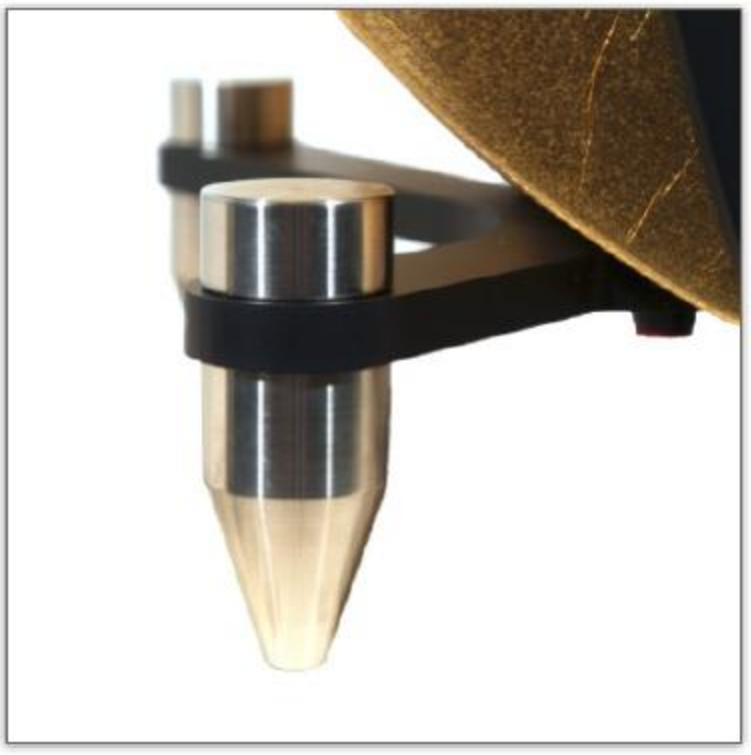
Drivers choice:
The restricting project requirements, and the unusual woofer positioning, put us in a long phase of searching and testing of proper drivers.
The choosing has fallen on 1,2" Tweeter and 5" Midwoofer by Accuton, the newest CELL ceramic

series, thanks to their outstanding sound performance (wide bandwidth, extremely low distortions, low loading volume required by the Midwoofer) (req #5), and the 10" Aluminum Woofer by SB Acoutics, thanks its shallow depth and, even in this case, low loading volume requirement. and high power handling (req #2,3,5).

Cabinet building and shaping:
Faithful to our traditional method in cabinet construction, by machine made MDF layers, che choice has fallen soon in a shape as closer as a tube, the more rigid solid available.

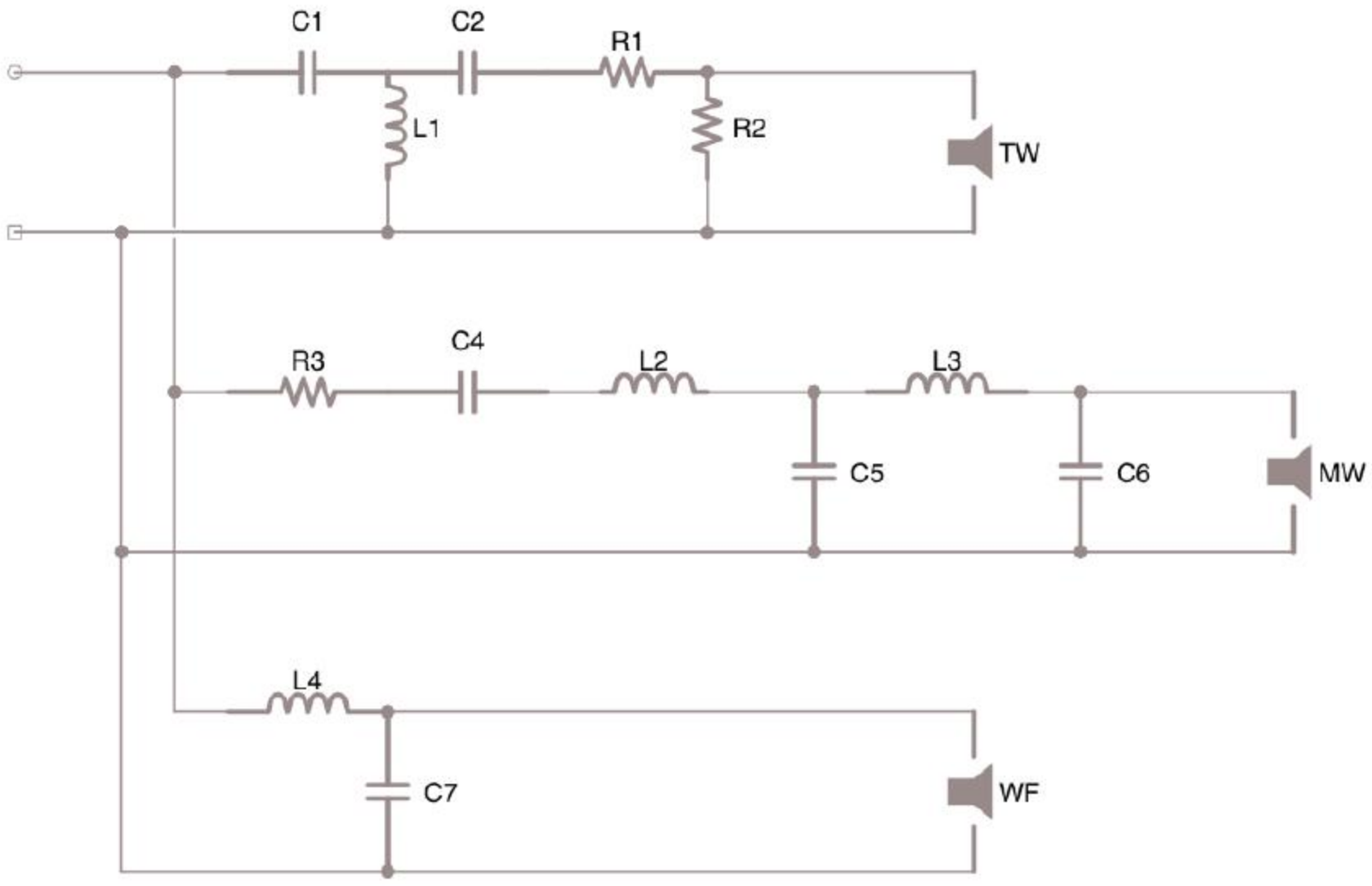
It guarantees sturdiness, no internal resonances and of the cabinet itself.
The front baffle, in black anodized aluminum with 25mm of thickness, receives from Beta and Gamma EMMESpeakers' loudspeakers the BSSE System, in which its shape and dimensions are designed to "synchronize" the edge diffractions with the direct emission.

To meet the req#1, the loudspeaker sizes has been limited as much as possible, so the binding posts have found place on the bottom of the cabinet.

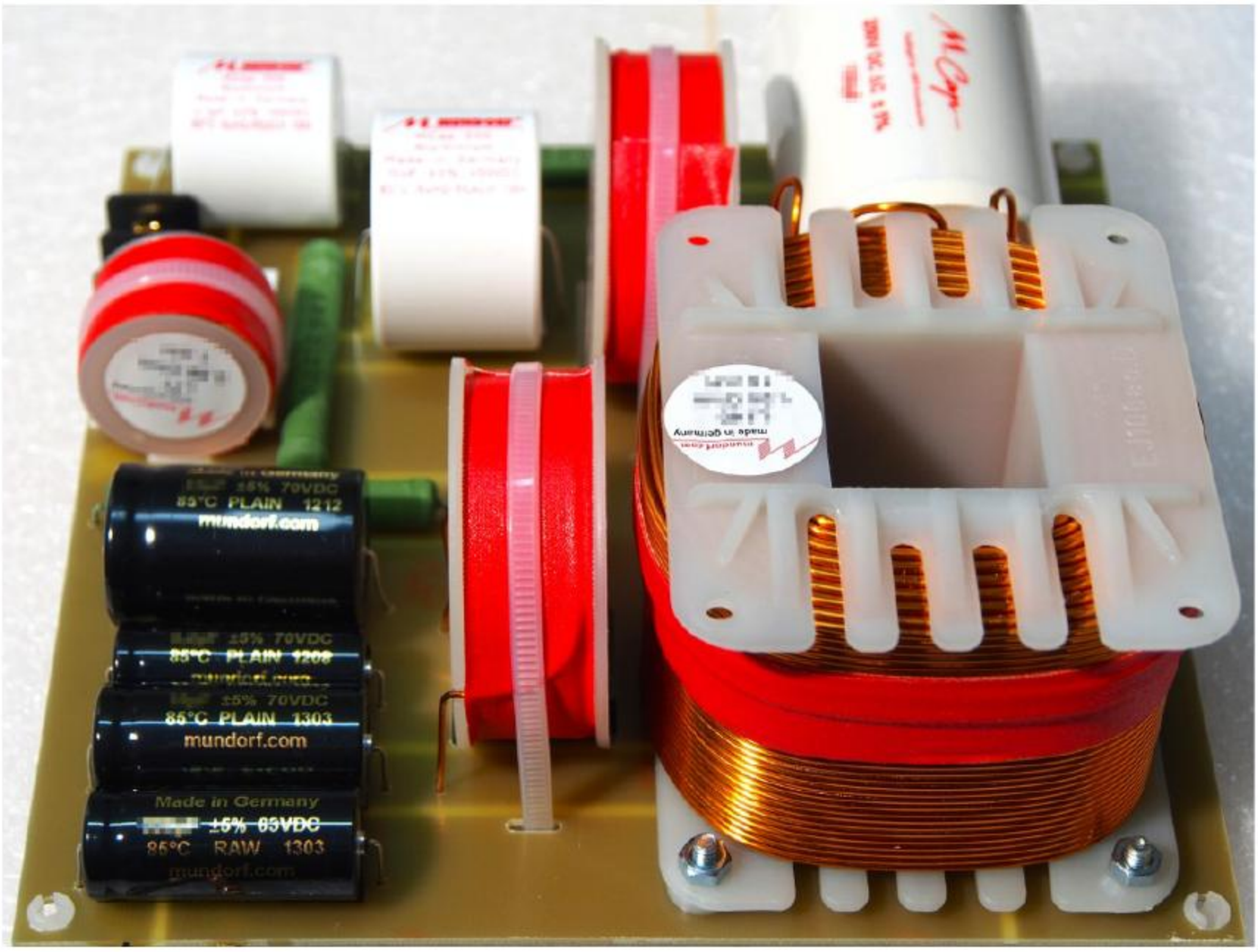


An asymmetric structure of anodized aluminum and stainless steel AISI 304 supports the speaker. Thanks to the calibrated thicknesses and shapes, it has a programmed compliance with self-leveling function and vibrations damping.

Acoustic layout and crossover design:
The DA VINCI, as said, has a three-ways layout. As usual for EMMESpeakers, it crosses over at very low frequencies with high orders of slope.
That to obtain very constant radiant lobes and the highest detail in sound reproduction.
Taking a look at the network drawing it appears quite complex. Actually the BSSE system intervenes in the drivers' radiations, preparing them to the crossovers and making the network simpler than it should be without the BSSE system itself.



The production of the crossover boards are made by Mundorf using exclusively Mundorf components, according to strict quality controls.



The EMMEStand:

A loudspeaker with a such innovative design like the DA VINCI, has required the study of a dedicated stand able to join good-looking and function.

Once again the EMMESpeakers method of manufacturing, by MDF layers, has represented the best solution, leaving us the wider freedom in shaping and design.

The final result is a solid and versatile dedicated stand, with a simple but beautiful design.

Four disks of stainless steel AISI 204 offer the support points for the DA VINCI spikes, guaranteeing stability and vibrations damping.

With a base finish in black matte and textured

paint, but ever available in all EMMESpeakers finishes, it offers an easy installing in any domestic context.

Technical data:

Layout: 3 ways with 3 drivers in sealed box
Treble Unit: 1,2-30mm Accuton Cell Ceramic Driver
Mid-Bass Unit: 5”-124mm Accuton Cell Ceramic Driver
Bass Unit: 10”-290 mm SB Acoustic Aluminum Driver
Power handling: 200 watts
Nomina Impedance: 6 Ohm
Sensitivity: 84 db
Frequency response: 30-40k Hz
Dimensions (hwd): 420x307,5x 300mm
Net weight each: 18,6 kg