

Plutone



DESCRIPTION

Two-way, bass-reflex monitor loudspeaker with 22cm light weight paper cone midwoofer with X-treme magnet, fibre glass voice coil former and low loss surround + 29mm tweeter with beryllium dome, titanium voice coil former and non-resonant aluminium rear chamber.

SPECIFICATIONS

Sensitivity • 91 dB / 2,83 volts
Impedance • 8 ohms nominal (minimum 7,2 ohms @ 200 Hz)
Frequency response • 48 - 40.000 Hz (-3dB) / 40 - 50.000Hz (-10dB)
Crossover frequency • 2400Hz
Power rating • circa 90 watts RMS
Dimensions (W x H x D) • 325 x 580 x 230 mm
Weight (finished product) • 22,1 kg each

[DOWNLOAD CAD-DRAWING](#)

[DOWNLOAD DIY KIT PARTS LIST](#)

[DOWNLOAD DATASHEET SCANSPEAK D2908-7140](#)

[DOWNLOAD DATASHEET JANTZEN AUDIO JA-8008 HMQ](#)

The loudspeaker kit contains all the components you need, even small items such as black screws for mounting the drivers, gasket sealing tape, etc. The only thing you need to purchase separately is the wood for the cabinets. The hard-wired crossovers come pre-assembled, matched and tested. The price for this DIY loudspeaker kit is EUR. 1.345,- each / EUR. 2.690,- per matched pair with the standard crossover or EUR. 1.760,- each / EUR. 3.520,- per matched pair with the Duelund CAST Cu-Ag Hybrid crossover. **New lower pricing! See our [general price list for the latest prices.](#)**

INTRODUCTION

The Plutone loudspeaker can be seen as a turning-point in the Humble Homemade Hifi tradition. An extreme amount of research and development has gone into this loudspeaker resulting in a product that can truly be called less-is-more. The combination of tweeter, woofer, cabinet material, shape and size form such a coherent unity that we were able to design a matching crossover that consists of only three components and uses no resistors at all, not even to tame the tweeter level! The result is stunning purity combined with a very natural tonal balance and excellent dynamic expression. Add into the mix a big sound-stage and you've got probably the best two-way monitor there is! Period.

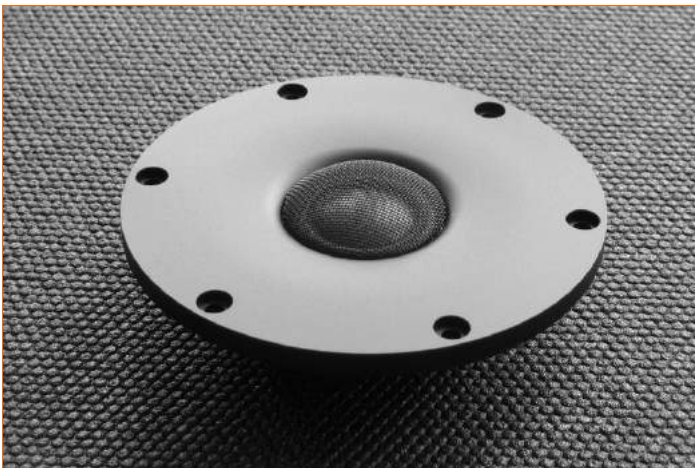
THE DRIVERS

Even some of the best drivers available sometimes need complex filtering to obtain a flat frequency curve, correct acoustic phase relative to each other, etc, etc. The idea behind the Plutone loudspeaker was to find a midwoofer and a tweeter that, when combined together, needed as little correction and filtering as possible, resulting in as pure reproduction as possible from a two-way loudspeaker. This idea therefore rules out drivers with sharp peaks and other irregularities in their frequency curves. An eight inch midwoofer was the starting point as to obtain a high enough efficiency to match that of the tweeter. And also having sufficient bass at the same time.

Among current 22cm midwoofers the Jantzen Audio JA-8008 HMQ, designed and developed by Troels Gravesen from Denmark and built buy SEAS of Norway, is one that fits the bill exactly. It boasts a very large magnet (SEAS calls it "X-treme Magnet"), a light weight paper cone and a high Qms fibre glass voice coil former. This driver is purpose designed for higher than average efficiency, low mechanical resistance and quick response. Because loudspeaker parameters such as efficiency, bass response, moving mass and cone area all related to each other, don't expect thunderous deep bass from these small woofers. They should be used for what they are intended for: higher than average efficiency combined with a well balanced and neutral response. If you want very deep bass, then use a purpose built subwoofer - duh. The frequency response of the JA-8008 HMQ is flat all the way up to about 4kHz and then roll-offs towards high frequencies extremely smoothly. See further down this page for the raw woofer measurement in the Plutone cabinet. This smooth curve, that runs way into tweeter territory, allows a simple low-pass filter.



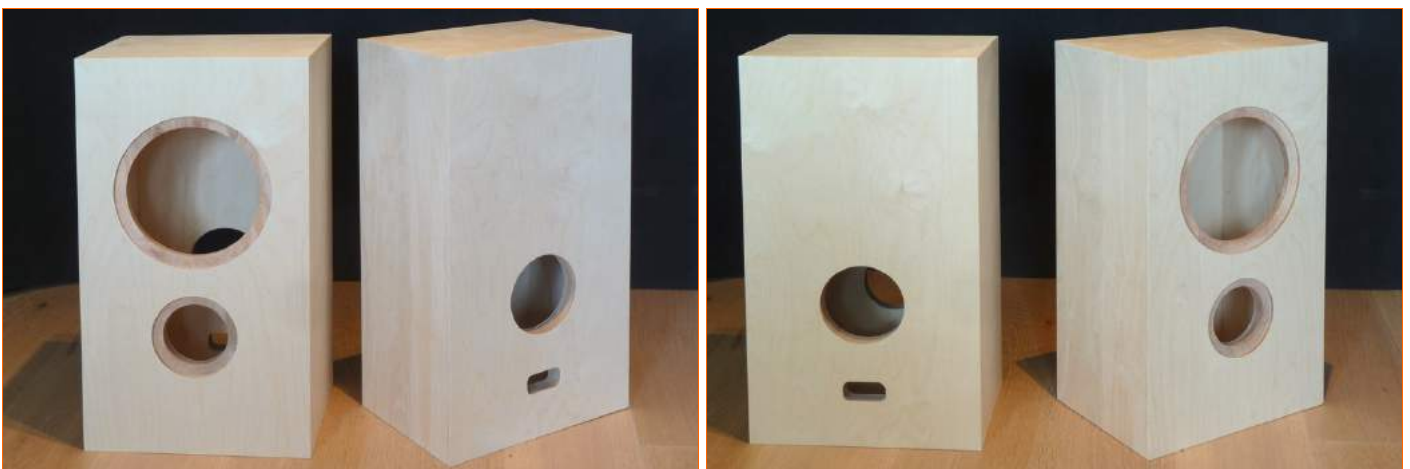
A matching tweeter for the Jantzen Audio JA-8008 HMQ midwoofer must have a frequency response that correspondingly runs into midwoofer territory without any humps and bumps. Together they then have a large area where both drivers overlap. There are many tweeters that can do that but I was also looking for one with a "special" frequency curve so that I could use a crossover "trick" to get away with using any resistors. See further down this page for the raw tweeter measurement in the Plutone cabinet and explanation on how that "trick" works. Furthermore I like to combine "hard" tweeters with "soft" midwoofers, the natural warmth and expression of a good paper cone woofer matches very well with the precision and accuracy of a good metal dome tweeter. The tweeter used for the Plutone is the Scanspeak D2908/7140. You can download the datasheet of the tweeter from the grey section at the top of this page. This top model Revelator tweeter is an efficient 8 ohm, 30mm beryllium dome tweeter with a smooth machined alu faceplate and acoustically very transparent wire-mesh protection grille. The face-plate is 6 millimetres thick and forms a very sturdy construction. The beryllium dome assembly is fixed to a titanium voice coil former and on the back there is Scan-Speaks special non-resonant aluminium rear chamber that effectively damps the back wave of the tweeter. The unfiltered frequency curve is basically a bump-shape centred around 4,5 kHz. At 20kHz the output level is around 90 dB's which is the tweeters real-life usable SPL. Another tweeter that I considered was the SEAS T29B001 / E0058-06, also with a large beryllium dome and a bump-shaped frequency response. Maybe I will use that next time :-)



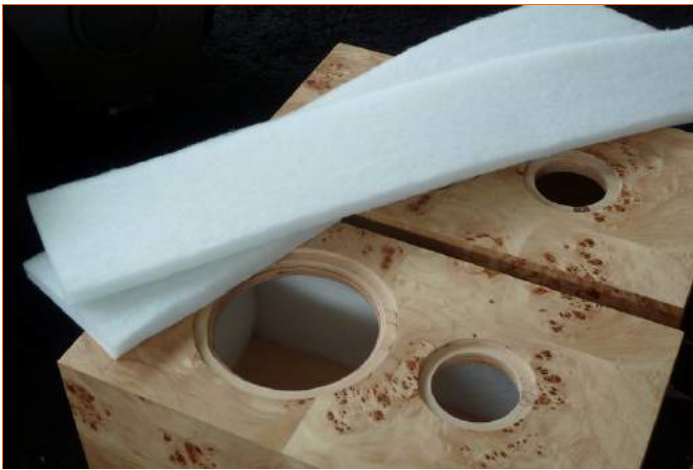


THE CABINET

One of the components that has a large impact on the overall sound of this loudspeaker is the cabinet. The Plutone may look simple but its shape, size and materials have specifically been chosen. Lots of experimenting, with many prototype cabinets was done before the final version was ready. For example the width of the cabinet is such that diffraction issues that occur along the baffle edges, are shifted to a frequency at which they are less of a problem. All loudspeaker cabinets have diffraction on the edges. This causes a dip in the frequency curve as the direct wave and the diffracted wave interact and cause cancelling. Modern narrow cabinets in particular can have a dip in the frequency curve of up to 6 dB's that occurs exactly in the very critical upper midrange in the octave from about 2,5 to 5 kHz - exactly where the tweeter starts to work! Frequencies in this range influence the intelligibility of speech. If there is something not right in this range the sound can become unpleasant and the human voice in particular can become harsh and lispy. By making the baffle wider these problems don't occur in this range but are shifted down in frequency and intensity to a level where the human hearing is much less sensitive. Another example of how clever this cabinet is, is the thickness of the panels. Many different panel thicknesses were tried, thinner panels tended to sound warmer but also more boomy. Single singer / songwriter recordings sounded fine with thinner panels, they actually made the vocalist sound bigger. But when the programme material got louder and / more complex the sound became too muddy and started to boom. Going to the other end of the scale: very thick panels sounded "quick" and well defined with loud music or full scale orchestra but smaller ensembles sounded too lean, sometimes even a bit lifeless. In the end we opted for the optimum panel thickness in relation to the size of the loudspeaker cabinets. In this case 27 millimetres sounded the best.



The cabinets of these loudspeakers are made from 27mm / 19 ply marine grade baltic birch plywood. There is an odd number of plies so that the sheet is balanced, this reduces warping. Because this plywood is bonded with grains running against one another and with an odd number of composite parts, it is very stiff. The quality of the wood used for the Plutone is so called BB-grade. This means that jointed veneers and small plugs are permitted but to a much lower extent than the cheaper C or CP grade. If your local timber yard doesn't stock 27mm BB-grade plywood you can glue 9mm + 18mm together for the same result. You can download a copy of the cabinet drawings from the grey section at the top of this page.



The construction is very easy, the cabinet is made from just six panels - that's all! No other form of bracing is needed due to the critically chosen panel thickness in relation to the surface area. I chose to veneer the cabinets and I used a light coloured Mappa Burl veneer (a.k.a. Poplar Burl), book-matched and mirrored. The veneer is applied with normal white PVA wood glue that is spread with a fine toothed comb over the whole surface area of the cabinet. The veneer is then pressed into the wet glue and left for a couple of hours to dry before the next panel is done. I just didn't have quite enough Mappa Burl veneer to do both cabinets so on the back (out of sight) I used some standard beach veneer. Once both cabinets are veneered, all cut-outs made and the whole thing smoothly sanded, it is time for the surface finishing. I used two layers of matt, water-based clear varnish sold here in The Netherlands as "*Glitsa Parketlak PT*". It is a hard wearing, polyurethane based varnish normally used on hard-wood flooring. Damping material is applied to the inside of all the panels except the inside of the front baffle. It comes in three pieces, two long strips that are folded to cover the side, top and bottom panels. There is some overlap so that the top and bottom panels are covered in a double thickness layer, the side panels have a single layer of damping material. The third piece is then applied to the inside of the rear panel which is then later partly covered by the crossover. A cut-out should be made in the damping material so that the bass-reflex port is kept clear. The damping material used is a special type of polyester fibre that varies in density. One side is higher density than the other, the higher density side is placed against the cabinet walls. No glue is needed, the polyester fibre sheets are simply held in place because they are cut slightly over-sized. Gasket sealing tape is applied to the recessed driver cutouts and on the inside of the port flare. The binding-post plate is supplied with it's own air-tight seal.



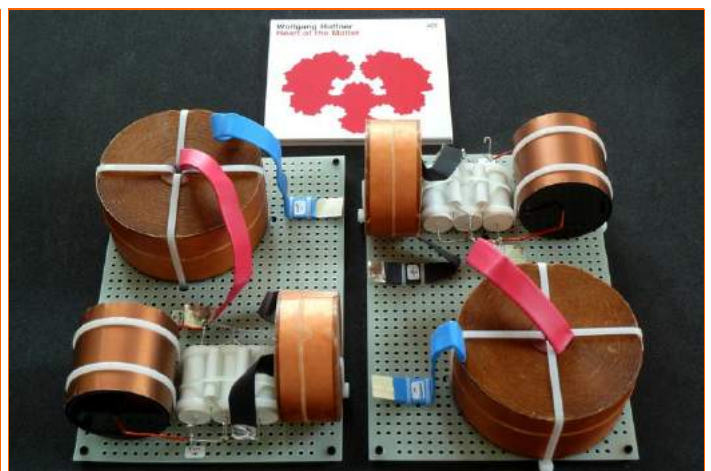
The standard DIY loudspeaker kit is sold with all the parts except for the cabinets (the cabinets are sold separately - please check our [price-list](#) for details). Even the black screws for mounting the terminal-plates and the drivers are part of the kit. The binding-posts are very high quality, low mass gold-plated WBT 0703-Cu types with a free-spinning ferrule on the tightening knob that allows a secure connection without any tendency to work loose or damage the wire. Internal wiring is 6N copper solid core wire from Jantzen Audio, 2x 1,00mm² for the woofer and crossover, 2x 0,50mm² for the tweeter. When soldering the cable to the midwoofer terminals be carefull not to get any solder in de gap around the voice-coil. The Jantzen Audio JA-8008 HMQ midwoofer shares the same modern chassis as all SEAS 22cm woofers and the voice-coil is therefore very well ventilated. This means there are many openings around the back of the chassis and the top of the magnet. Places where dirt and other such gremlins can get stuck. I used a wooden paint mixing stick that fits just nicely between the loudspeaker chassis and the magnet, this keeps any solder from falling into the gap. The bass-reflex port is the JetSet-70 from Intertechnik. This port has very large inner and outer flares that minimise air-flow resistance and noises. The inner tube is cut to the correct length and then the inner flare, tube and outer flare are fixed together to form one port. You can either glue them together or use duck-tape or similar. The midwoofer, tweeter and port are sealed air-tight with the supplied gasket sealing tape. The terminal-plates come with their own air-tight seal.

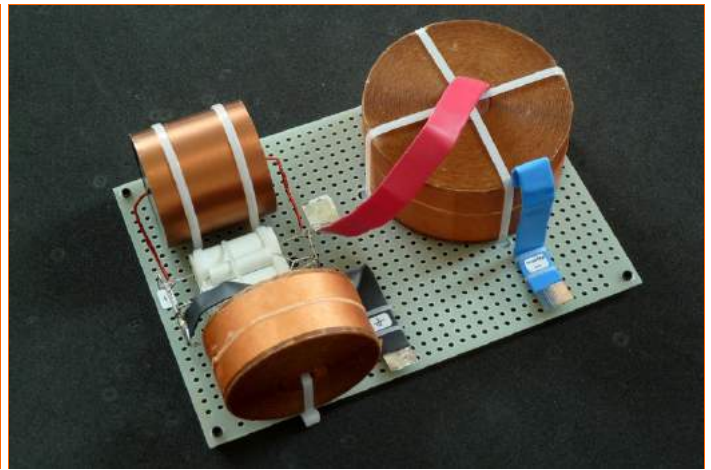
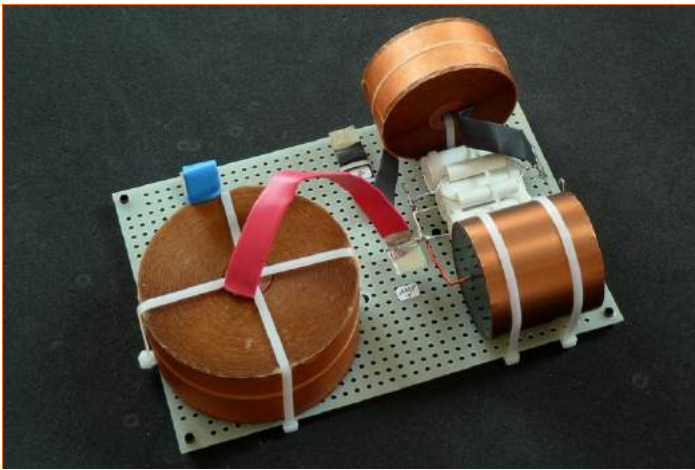


The Plutone loudspeakers are designed for optimum acoustic phase when the woofers are placed at ear-height. Due to the fact that the acoustic centre of the woofer is a little further back than that of the tweeter, when you place the woofer at ear height the difference in off-set will be corrected.

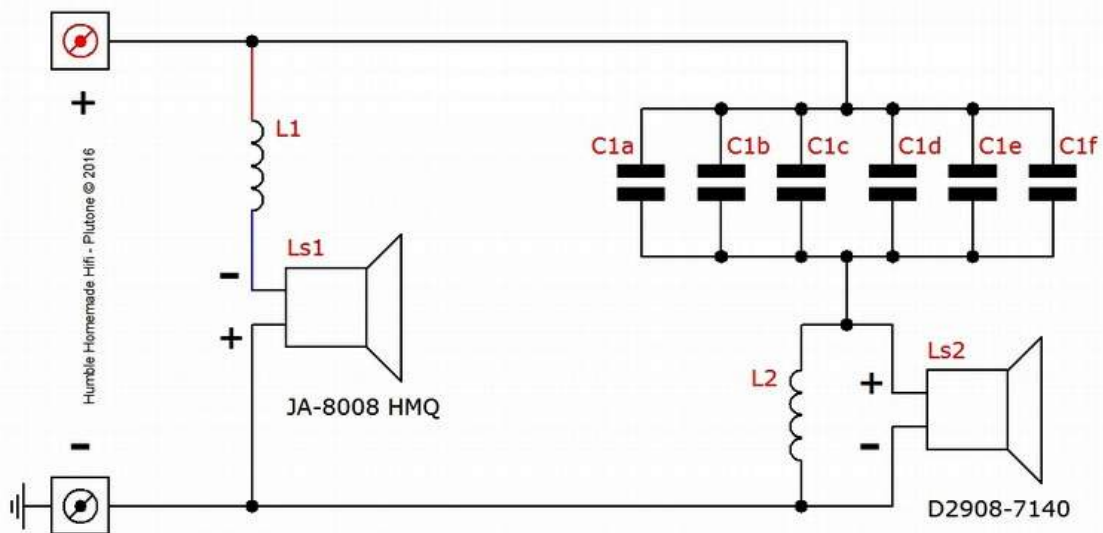
THE CROSSOVER

A crossover is the heart and soul of any loudspeaker and extremely important for the end result. The crossovers use very high grade components from Jantzen Audio and Intertechnik. The crossover comes with the great Intertechnik Audyn True Copper Max capacitor for the tweeter. A Duelund Coherent Audio CAST copper / silver hybrid capacitor is also available as an alternative should you be looking for the best there is. The crossovers are part of the kit and are sold ready-made, matched and tested. The components are all hard-wired from component to component without the use of any extra wire bridges and are mounted on anti static FR4 epoxy circuit boards. The components are held in place with Hellermann Tyton professional grade, halogen free, UL94 V2 rated cable ties.





The crossovers are supplied with PCB spacers and matching screws. The crossovers should be screwed to the inside of the rear wall partly covering the damping material. Note that the midwoofer is connected in reverse phase relative to the tweeter. Because the drivers and cabinet work together so well we were able to keep the crossover very minimalist: a modified second order high-pass on the tweeter and a single inductor on the woofer. Due to the simplicity of the crossover and the high resolution of the drivers even the smallest change in component value or type could easily be heard. With the inductors for example, even differences of 0,05mH could easily be heard. Therefore both inductors are non-standard values and are wound exactly to our specified values. The tweeter capacitor has several small capacitors connected in parallel to obtain the exact value needed as the total combined value is not available as one single capacitor. Because the crossover is so simple we were able to use some of the best components available. An extremely good example of when everything falls into place and less becomes more.

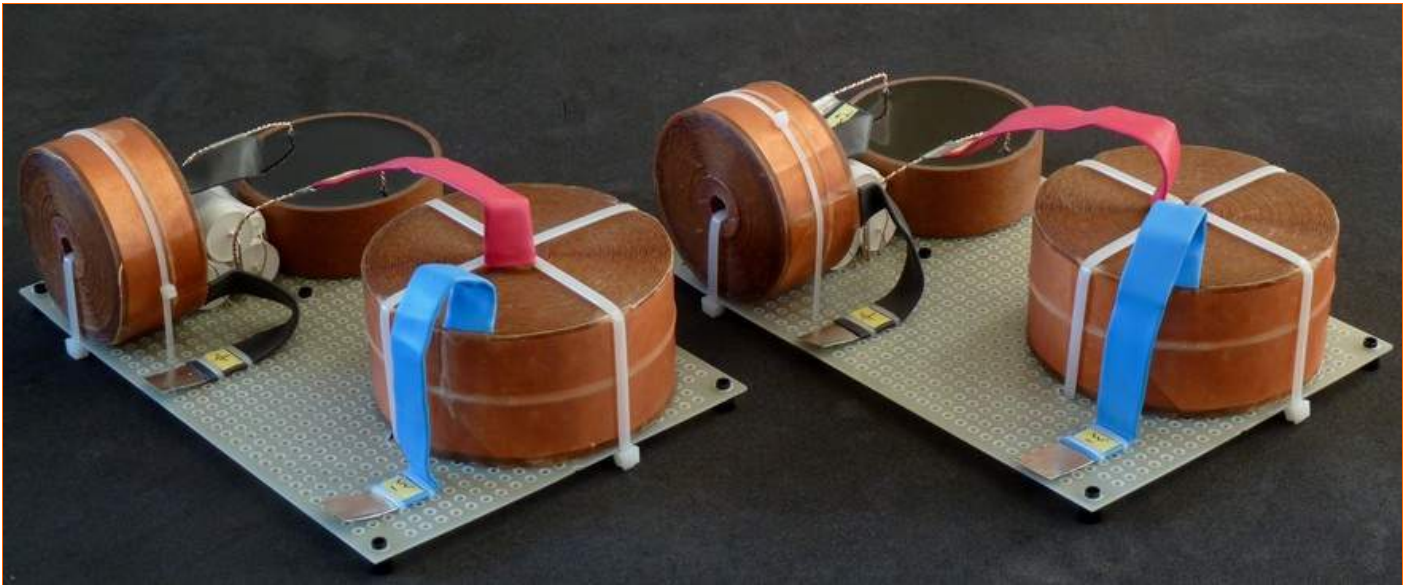
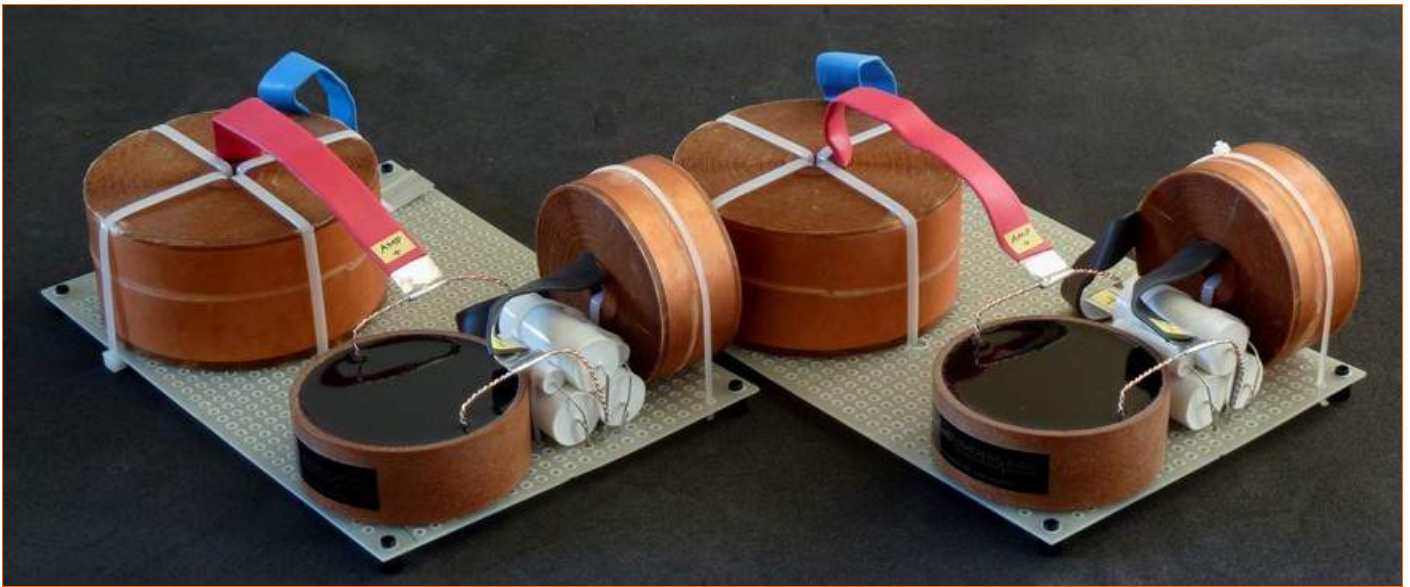


Inductors

- L1 = Jantzen Audio Wax Coil / 12AWG
- L2 = Jantzen Audio Wax Coil / 14AWG

Capacitors

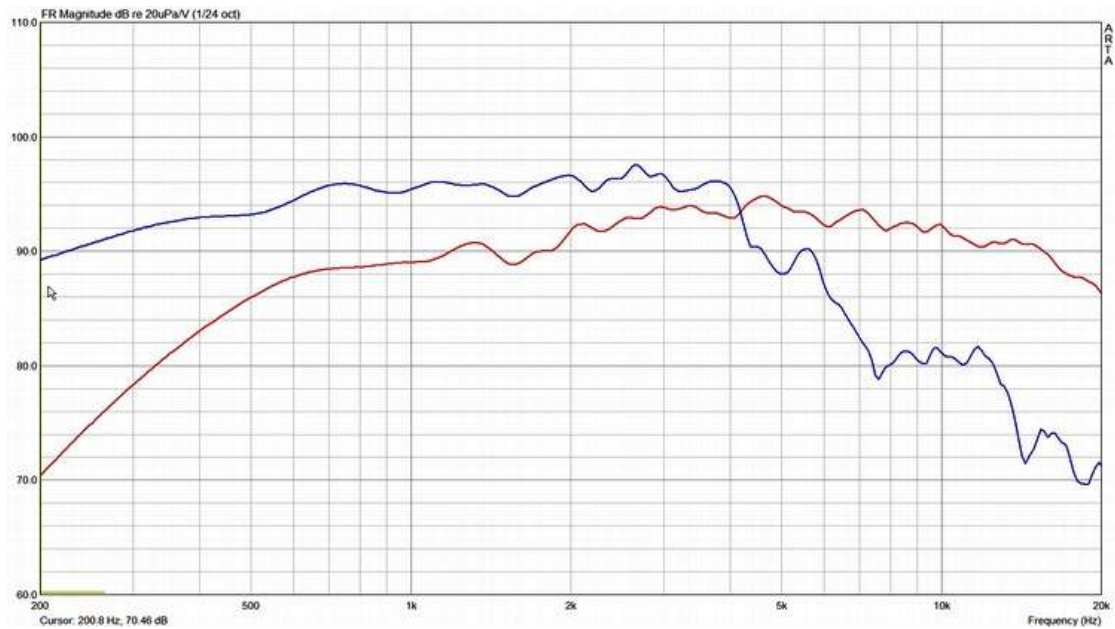
- C1a = Intertechnik Audyn True Copper Max / 630VDC or Duelund Coherent Audio Copper Silver Hybrid / 100VDC
- C1b = Foil bypass cap / 3000VDC
- C1c = Foil bypass cap / 3000VDC
- C1d = Foil bypass cap / 3000VDC
- C1e = Foil bypass cap / 3000VDC
- C1f = Foil bypass cap / 3000VDC



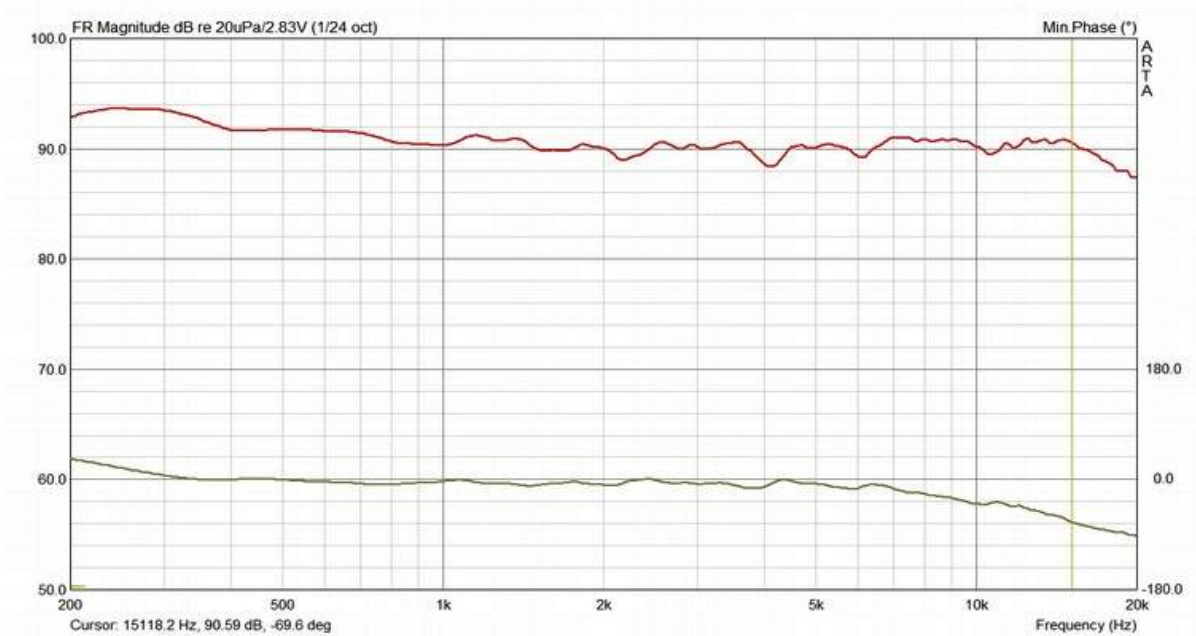
The Plutone crossovers with Duelund Coherent Audio Copper Silver Hybrid capacitors.

MEASUREMENTS

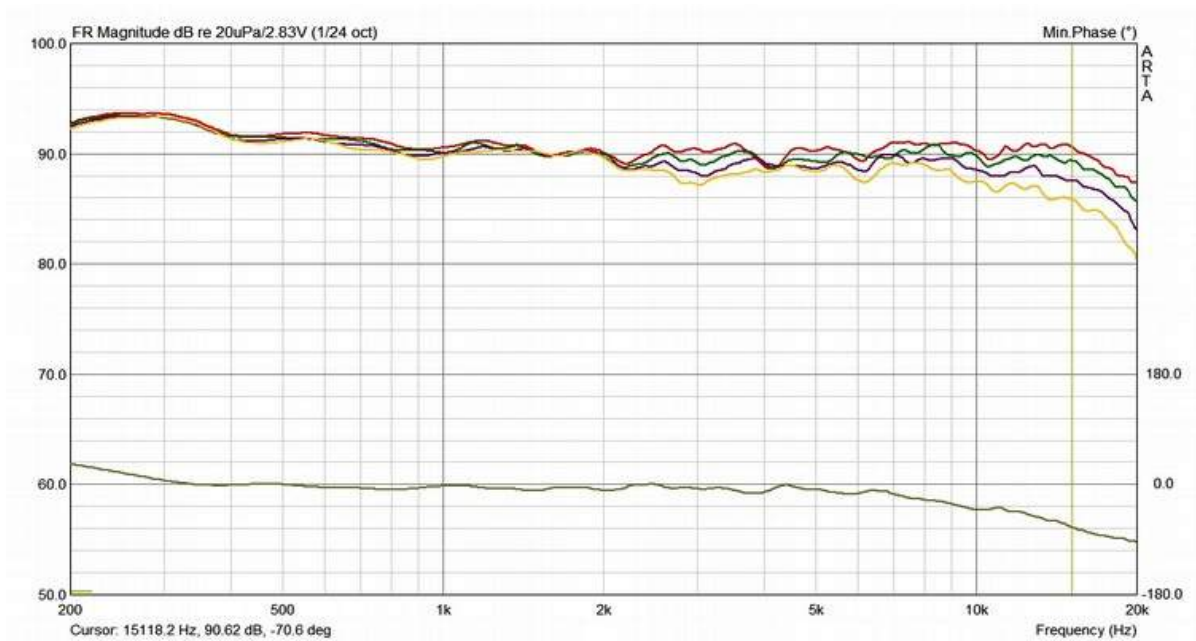
Below you can see the frequency measurements of the unfiltered raw drivers in the Plutone cabinet. Without the crossover they both show smooth curves with a large overlap from about 600Hz to 6000Hz - three and a half octaves! This large overlap is needed when using gradual slopes as the Plutone has. The trick with the single low-pass inductor works because due to its value it starts to kick in the low midrange but doesn't provide full attenuation due to the fact that the rising impedance of the woofer counteracts it to some degree. The trick for the second order high pass network of the tweeter is that the values of the two components differ rather from text-book formulae. The series capacitor is smaller than usual and the parallel inductor is larger than usual. This means that the capacitor starts to work at very high frequencies but the inductor doesn't start until about 2kHz. The result is that the natural hump from 2-10kHz is flattened and then below 2kHz where the tweeter needs some protection it has a full second order network. The small capacitor value also increases overall power handling.



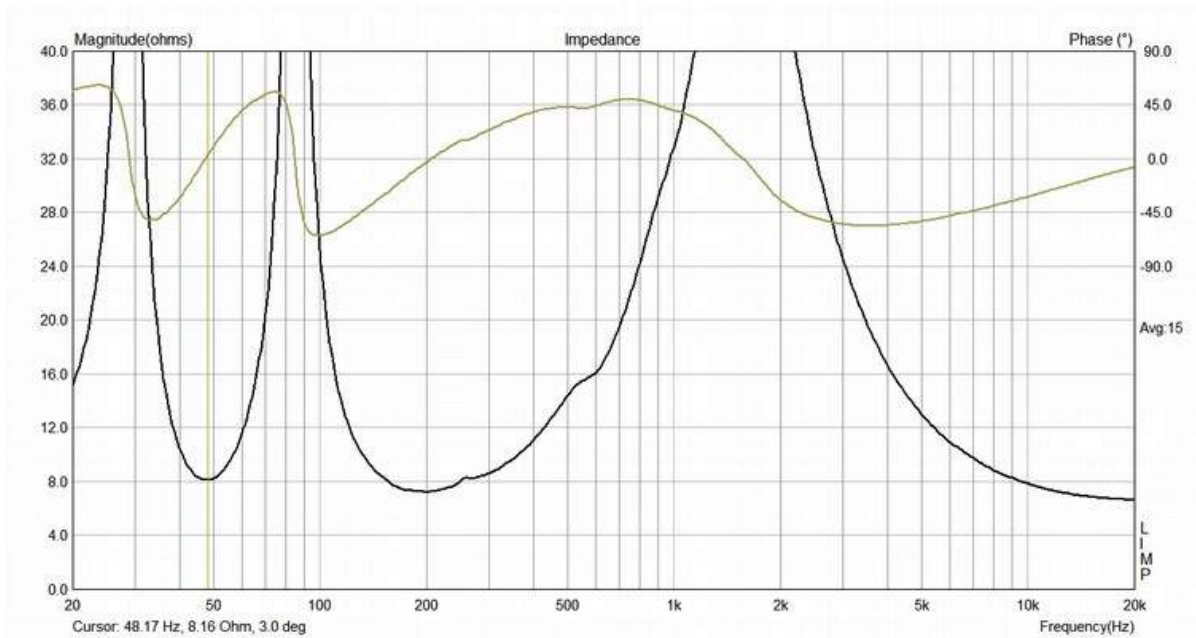
Above: frequency curves of the unfiltered raw drivers in the Plutone cabinet. Red = tweeter on-axis; Blue = woofer on-axis / Range 200Hz - 20kHz / Vertical scale 60-110dB; subdivisions 2dB's.



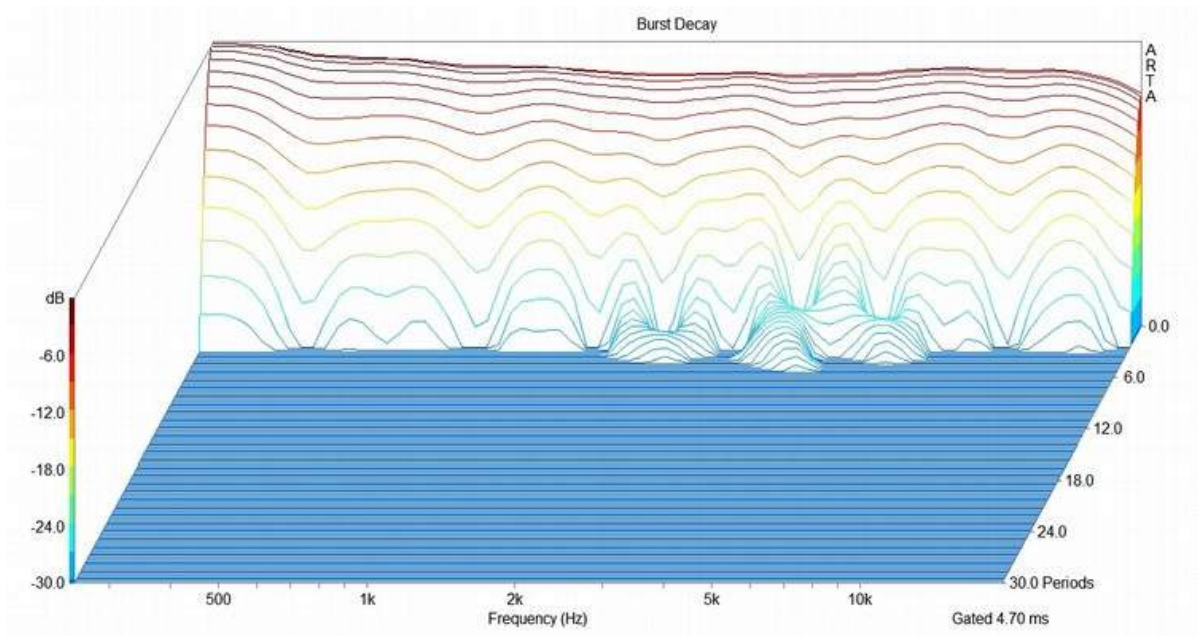
Above: the frequency measurement of the finished system shows a smooth curve flat within +/- 1,5dB. This indicates a very neutral tonal balance. System efficiency is above average for a two-way monitor with around 91 dB / 2,83V. Range 200Hz - 20kHz / Vertical scale 50-100dB; subdivisions 2dB's.



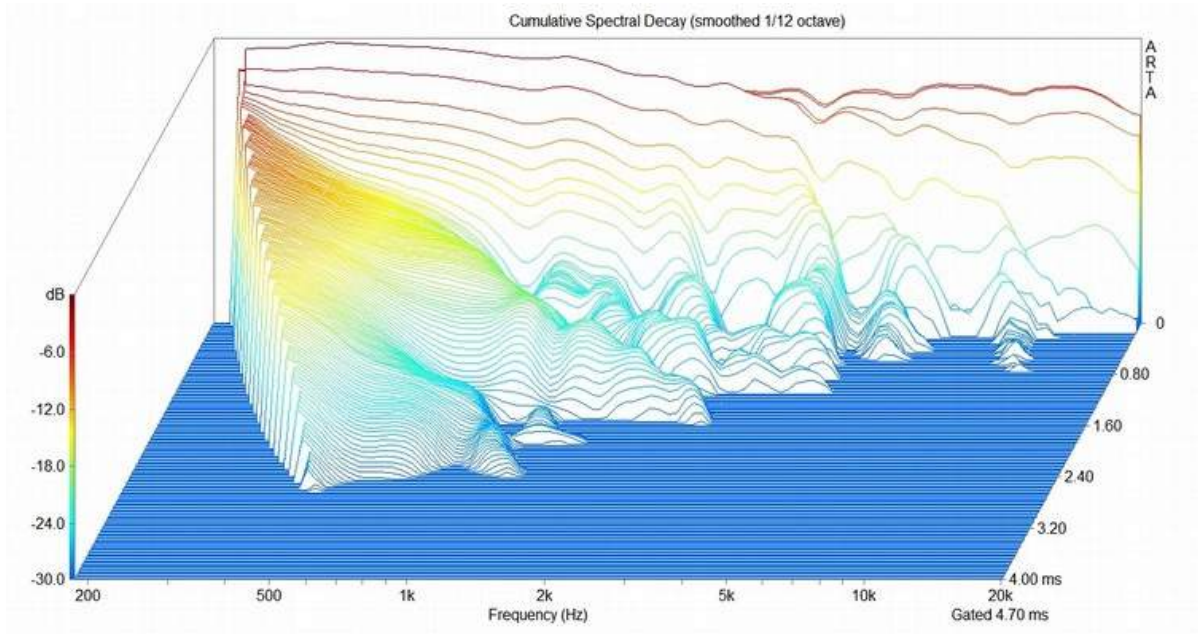
Above: On-axis and off-axis frequency measurements show very even response curves. This indicates a constant and neutral tonal balance under any angle and therefore the size of the sound-stage can be tuned to personal taste and room acoustics without altering the tonal balance of the loudspeakers. Red on-axis; Green 15 degrees off-axis; Purple 30 degrees off-axis; Yellow 45 degrees off-axis; Range 200Hz - 20kHz / Vertical scale 50-100dB; subdivisions 2dB's.



Above: The impedance plot of the finished system shows a very easy load for any amplifier, a healthy 8 ohms nominal impedance. Impedance minimum 7,2 ohms @ 200Hz / Impedance maximum 100 ohms @ 85Hz / Range 20Hz - 20kHz / Vertical scale 0-40 ohms; subdivisions 4 ohms.



Above: The burst decay of the finished system shows a very smooth decay with no nasties. Range 200Hz - 20kHz / Vertical scale 0dB to -30dB's; Time scale 30 periods.



Above: The cumulative spectral decay of the finished system again shows a very smooth decay with no nasties. Range 200Hz - 20kHz / Vertical scale 0dB to -30dB's; Time scale 4 milliseconds.

LISTENING IMPRESSIONS



As already mentioned at the beginning of this article, the Plutone loudspeaker has stunning purity combined with a very natural tonal balance and excellent dynamic expression. Being able to use no resistors in the signal path of the tweeter seems to have really paid off. In earlier versions of the crossover some resistors were used. But no matter how good the resistors were (we were experimenting with Duelund CAST and Mundorf MResist Supreme), the best resistor was no resistor at all! The Plutone does need an extremely long time to fully burn-in, fresh out of the box the sound is thin and a bit in your face. It takes more than 100 hours of normal use before the loudspeaker calms down and opens up.

After sufficient burn-in the treble is extremely well rendered, with heaps of detail and insight into the recording and at the same time never harsh nor sharp. Even with recordings that I have been using for years I noticed with the Plutone things that weren't there before. Like how long the acoustic decay is in the recording studio, it seems to be longer than before and more logical (*for example: the opening number "Jingle Bells" on the Diana Krall record "Christmas Songs"*). The tonal balance of this loudspeaker is very natural, well balanced and coherent. At no time are you thinking about how good the tweeter is or how good the woofer is, just how good the music is. The loudspeaker is also very honest, the speaker simply just plays what it is given. Feed it a poorly produced recording of 1980's popular music and you get a poorly produced recording of 1980's popular music. Feed the Plutone a nice quality recording and you couldn't wish for anything more. On *Makiko Hirabayashi's* record "Surely" the instruments are captured quite realistically, the percussion instruments and bells sound very life-like with a nice warm and bright shine. The close-miked concert piano sounds big like it should.

Talking of big, the sound-stage is also big. When the loudspeakers are placed to form an equilateral triangle with the listener and the inner sides of the loudspeaker cabinets can just be seen, the image is wide with lots of depth. In our demo room the speakers are about 350 centimetres apart (measured from woofer phase-plug to woofer phase-plug) and about 380 centimetres from the listening seat. This give a "being there experience" which really lets you forget everything except the music.

Due to it's pure sound in combination with the minimalist crossover, it took a very long time to find the right capacitor for the Scanspeak tweeter. Initially we thought we were on the right track by using a Mundorf Supreme EVO Silver-Gold-Oil due to it's very finely detailed and open nature, but after many months of use this detailed nature became too much of a good thing. To put it bluntly, the Plutone sounded too much like high-end audio and not enough like music, if you know what I mean. After even more testing we finally ended up using the Intertechnik Audyn True Copper Max in combination with a total of five small film capacitors connected parallel. This combination had more flow, richer overtones and a generally more pleasing tonal balance. As with all things in audio the increase in sound quality roughly follows a linear scale, the corresponding increase in cost follows (more or less) a logarithmic scale. So to improve on the already very good Intertechnik True Copper Max I had to indulge in a nice Duelund Cast Copper / Silver Hybrid for the main tweeter capacitor. If the extra cost is worth it is up to you, some would consider it a bargain, others would not. In the end all is relative: the price difference between the standard pair and the Duelund pair of Plutone is 700 euro's. Some people prefer to spend that sort of money on a watch or the latest smart-phone or on vacation. Personally I get much greater satisfaction and pleasure when spending it on loudspeakers that last at least 30 years ;-). Anyway, back to the subject. With the Duelund capacitors in the crossover there is increased "tangibility" in the sound. The sound gains in fine detail and richness of tone at the same time. It's hard to describe but the end result is that there seems to be a more "being there" effect. For example when listening to Pierre Boulez's "*Livre pour Quatuor*" performed by Quatuor Diotima, it is like sitting front

row. You hear all the small details such as string / bow contact better but in a very natural manner, it doesn't distract you from the music. Maybe I am a little more sensitive to these sort of things (my wife is a classically trained violinist and I play jazz double bass) but it is realism like this that makes reproduced music so much more convincing.

During the development of the Plutone we used many different amplifiers, interlinks and speaker cables and in all cases the Plutone let you hear exactly what was happening in the rest of the system. For example using Audioquest's analogue interlink *Wind* I got lovely rendered vocals and a very black background and at the same time lots of precision. Switching to Audioquest's interlink *Earth* (that is identical in build except for the use of copper instead of silver) the very black background became a tad less black but gained some warmth in the lower treble, giving the overall sound a bit more body. Exactly the difference between these two Audioquest interlinks as I am used to. And this is just one of many other examples. The Plutone basically just lets you hear exactly what is happening in the rest of your system. A very enjoyable experience! You will find some video's of the Plutone on [YouTube](#) to give you a quick impression.



Contents of the Humble Homemade HiFi DIY loudspeaker kit Plutone with the standard crossovers.

What customers say about the Plutone:

"The day after I received the kits, I connected all the components without the cabinets and gave them over 400 hours of burn-in, so I should already be hearing them at their full potential. The Plutones are fed by a minimalist system with 300B SET mono-blocks directly fed by an Esoteric cd player with volume control. My initial audition dispelled my biggest fear of them sounding thin with surprisingly good bass that measures flat to 40Hz in my room. They shine indeed in the areas where I hoped they would and easily outclass my previous ScanSpeak Revelator monitors. And this is not by a small margin with the increased level of detail apparent from the very first note: it is like being in the room with the musicians. There is a song I have heard on systems costing over \$100K where I could hear some low level sounds, but not enough to understand what the musician was playing, not enough to "get it". Well, I finally "got it" with the Plutone and I was able to identify which instrument was playing and was surprised to find out that it plays a lot more than I previously thought. Did more listening yesterday and I have to say that something is missing - in a good way! It is hard to describe, but the highs are so smooth yet so detailed that I have to conclude that an edginess (or noise) in the music is gone. Thank you for developing the Plutone, truly a state of the art reference caliber speaker." (Jean-Pierre - Toronto, Canada)



"I have a Unison Research Little Italy, Single Ended EL34 tube-map of 2 x 12 Watts. The Plutones had played at least 100 hours before I'm got round to finish the cabinets. After the new installation however, it lasted weeks before it sounded good. But then it was there: precise and balanced but also lively and fresh. Some examples: the voice of Magdalena Kožená in arias by Bach sounds very pure and clear. Instruments and voice are separated well. Guitar and guitarra in various recordings of Amalia Rodrigues sound nicely "pointed" and where she draws out with her voice this is quite lifelike, but never too much. Sarah K's guitar is clear and detailed and has a long decay, stunning. With classical orchestral work, such as Shostakovitch's 15th Symphony with the London Philharmonic Orchestra conducted by Bernard Haitink, a lovely space is created. The last part of Mahler's "Des Knaben Wunderhorn" by the Royal Concertgebouw Orchestra with Ricardo Chailly, has a wonderful layering in music. Berlioz "Symphonie Fantastique" fourth part: "Marche au Supplice" sounds firm, with dynamic percussion, shrill and growling trumpets."(Hans - Rotterdam, Netherlands).

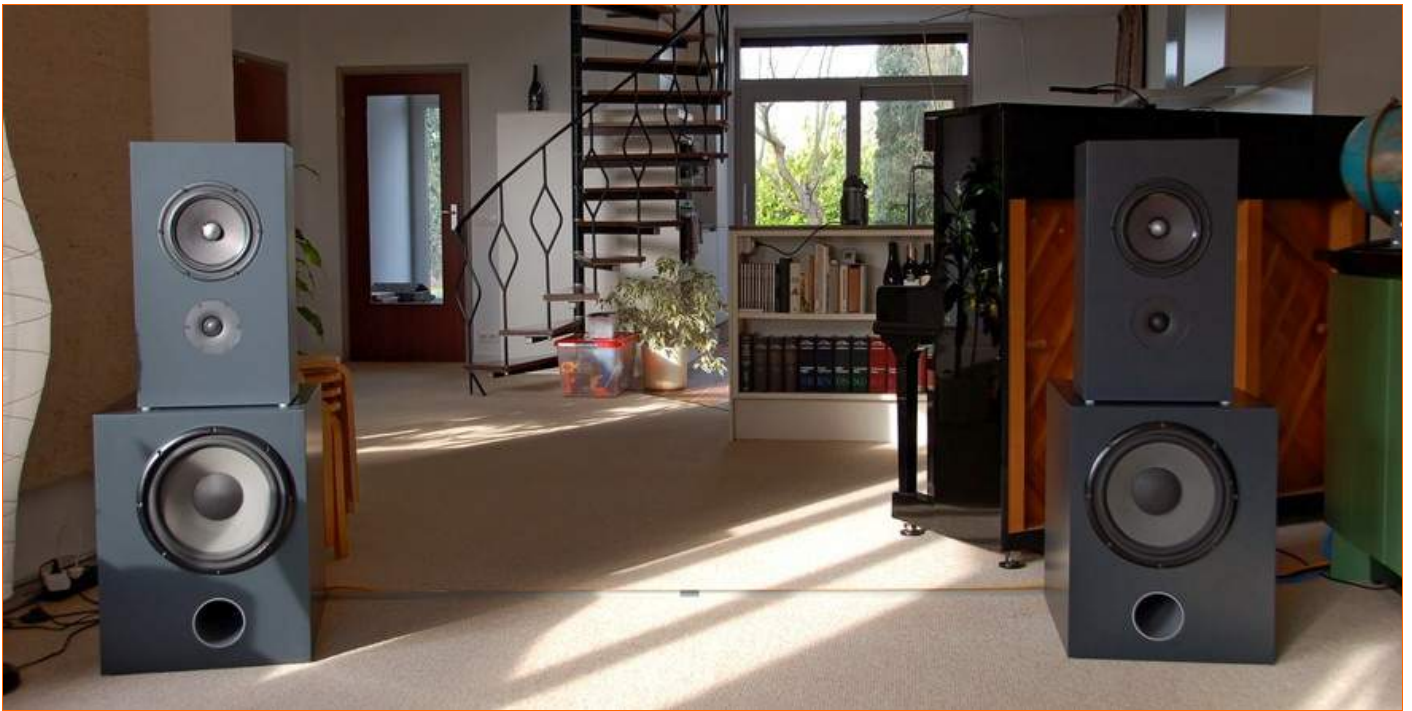


"I couldn't be happier with my purchase. I got the standard kit with Intertechnik capacitor for the tweeter, and I also bought Tony's very nicely CNC cut baltic birch plywood cabinets. My equipment consists of Thule IA350B amp, Lyngdorf CD 1 CDP, homemade

copper speaker cables and homemade solid core silver and copper interconnects (two sets)..... I have never had better speakers in my house! The overall sound is firm and dynamic with lots of details. The sound is airy and fast. One of my concerns with a monitor speaker, in contrast to the floor speakers that I was used to, was the bass performance not being sufficient. The best bass performance in my room, which is 7,20 meters long, I achieved with the baffle of the speaker 50cm from the wall. When they are placed here I cannot think of better and firmer bass. They play deeper than you would think, and my room of 32 square metres seems to suit these speakers fine. You can hear every note from the bass and drums with a lot of air around them. You can also hear when the drummer doesn't hit the drums the exactly same place every time. The attack and speed are exceptional. The speaker is very revealing and the shift from silver to copper interconnects is easily heard. These speakers deserve the best cables you can afford. In my case the silver adds more airy top end, on the other hand the copper ones add some warmth in the upper midrange..... Voice reproduction is very good and has this airy, dynamic and open presentation. The first couple of hours weren't anything special, and I had the feeling that I heard the box (cabinet) swinging along with the voice. This is now completely gone and I suppose it was the driver itself that just needed quite some time for initial burn in..... I'm not able to get the very deep soundstage I heard at Tony's place, but he had a very nice and well optimised demo-room, and I use my living room for my setup which isn't specially treated in any way. The stereo image is good and you can visualize the musicians to be right in front of you. These speakers are quite heavy and weigh about 22 kg and should have solid stands." "These speakers are still getting better and better. I thought 100 hours was enough to get the best out of them. But now after 200-300 hours they are even better." (Tonny - Fredericia, Denmark)



"There are a lot of speakers, what makes these speakers so special for me? The sound draws me in music. There is a lot of expression from the musicians. This applies to instruments and voices. Vocals really come in. Peter Gabriel on "Scratch My Back" for example. The qualities that Peter has in his voice to express what he sings are wonderful. Nuances in every piece, the use of dynamics, throat sounds, falsetto. This creeps in. And this happens with many singers. The result is a reproduction with a lot of emotion and expression..... And instruments are so natural. No guessing at what is being heard, keynotes and overtones are balanced and you can hear the musicians with their instruments at work..... If the recording is good the instruments get their own place, have their own amount of air and can be heard what the sound engineer has done. Orchestras are deep and wide. Here too, the sounds do not run into one another or clog up. And bad recordings don't get a pseudo space because the speaker adds something. Here again the absence of fake or an effect and there is simply an honest representation..... The midrange, with its expression, emotion and intelligibility, is the secret of this set. In the transition area from the midrange to the treble I can't detect any change in tone. High detail, lack of aggression, entirely matching with the midrange. And here also much subtlety. Each tap on the high-hat or cymbal is different, the music is so lively. A good drummer lays down much more expression with cymbals with brushing and rhythmic tapping..... Nothing is lost from the music. And there are so many CD's, um, streams in my network where so much comes rolling out. And that's not only with jazz but also a lot of pop, rock and classical. And there is still something in which I am searching a bit for how to describe it. This speaker is very fast and the special thing is that it gives so much information in the attack. I suspect that this adds to the familiarity of the instruments and ease of listening. The result of all expression from the Plutone is that it's great to listen to music." (Edwin - Fijnaart, The Netherlands)



No part of this website may be reproduced in any form without written or e-mail consent from the author. The designs are free to use for private DIY-purposes only, commercial use is strictly prohibited. Humble Homemade Hifi is a subsidiary of tg-acoustics - Chamber of Commerce 37138402 - The Netherlands
© Copyright Humble Homemade Hifi

Last updated 15.1.2019